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No. 04-108

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In The
Supreme Court of the United States

SUSETTE KELO, THELMA BRELESKY, PASQUALE CRISTOFARO, WILHELMINA AND CHARLES DERY, JAMES AND LAURA GURETSKY, PATAYA CONSTRUCTION LIMITED PARTNERSHIP, and WILLIAM VON WINKLE,

Petitioners,

v.

CITY OF NEW LONDON, and NEW LONDON DEVELOPMENT CORPORATION,

Respondents.

On Writ Of Certiorari To The Supreme Court Of Connecticut

JOINT APPENDIX
Volume III, Pages 488 to 735

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4.0 IMPACT EVALUATION

4.1 Overview of Impacts

Potential impacts associated with each identified resource are evaluated for the six land use concept alternatives presented in Section 3.0 of this document. This impact evaluation has been organizationally structured to be compatible with the existing conditions inventory presented in Section 2.0 of this document.

Major issues evaluated include (1) consistency with state and local land use policies for the Fort Trumbull area; (2) consistency with the Connecticut Coastal Management Act with respect to water dependency of waterfront uses; (3) consistency with the project goals of world class development, economic stimulation, waterfront public access, and the revitalization of downtown New London; (4) consistency with flood management policies; (5) neighborhood relocation impacts; (6) traffic and parking impacts; and (7) other identified issues particular to each alternative.

A brief summary of significant positive and negative impacts of each alternative is presented in Tables 4.1-1 through 4.1-6. These are described in greater detail in Sections 4.2 through 4.18 of this document.

A summary that rates the alternatives' consistency with project goals and objectives and related impacts is presented in Table 4.1-7. Designations have been assigned for general consistency and impact, without regard to the weight of each area or the degree to which a particular alternative is: consistent, neutral, or inconsistent. These designations are based upon the collective opinion of the project consultant team based on available data and information, as well as input from NLDC, state agencies, and various other reviewers. To assign numerical values to these attributes would be overly subjective and was therefore not done.

The following project goals merit further description:

Complement Pfizer – Consistency of alternatives with the planned Pfizer facility to the south (and outside) of the MDP area is based on whether or not the land uses would complement the planned development. The only alternative which was considered to be inconsistent was the no action alternative, since it would result in segmented and disconnected projects, with no improvements proposed between the two. The recreation/tourism and residential/commercial alternatives were considered neutral in that they would not be anticipated to detract from the Pfizer facility, but would not necessarily complement it either. The business campus and mixed use alternatives were determined to be compatible with and complement the planned Pfizer facility.

Economic and Financial Considerations – Consistency of alternatives with economic stimulation, job creation, generation of tax revenues, and creation of spin-off activity was based on the socioeconomic analysis presented in Section 4.3 of this document.

Downtown Revitalization – New London is currently undergoing analysis and evaluation of its downtown community. Most of these planning projects are underway and finalized details are not yet available. The determination of consistency (or lack thereof) of the alternatives for the Fort Trumbull area with downtown revitalization is based upon whether proposed uses would complement or detract from downtown uses. For instance, a large retail component or ferry services would likely duplicate services which are currently or will soon be provided in the downtown area, whereas uses in the Fort Trumbull area that would draw upon or rely on downtown amenities were considered to be consistent. Residential uses would be considered neutral or marginally

consistent with downtown revitalization in that they would not likely detract or complement the revitalization efforts in downtown New London.

The Fort Trumbull area benefits from its proximity to downtown New London, which is a major transportation hub. It is situated near Interstates 95 and 395, with numerous multi-modal transportation amenities in the immediate vicinity. Amtrak and Shoreline East provide daily train service to downtown New London. Amtrak expects its electrified track to be operational by the year 2000. Cross Sound Ferry Services, Inc. provides water transportation to Long Island, Block Island, and Fisher's Island. The city has recently invested in a large parking facility located in central downtown near the ferry and railroad terminals. Additionally the Groton/New London Airport is located across the Thames River in Groton, providing service to Philadelphia and New York City. South East Area Transit (SEAT) provides bus service to the southeast region. Other land uses in downtown New London include municipal offices, places of worship, business offices, industrial operations, retail, and residential uses.

Common to Alternatives 2 through 6 is a physical linkage to downtown New London through the proposed waterfront riverwalk which will ideally make use of the Amtrak bridge at the entrance to Shaw's Cove. Alternately, this linear walkway could take an inland route, connecting the Fort Trumbull area with downtown New London.

Resource Impacts – Impacts on resources, regulations, and characteristic features within the MDP area are also summarized in Table 4.1-7. These are based upon the analysis presented in Sections 4.2 through 4.16 of this document.

TABLE 4.1-1
Advantages and Disadvantages of Alternative No. 1 – No Action

Advantages	Disadvantages
• Proposed uses at the NUWC site are consistent with state and local land use policies for the area. • Proposed waterfront uses are water dependent and are consistent with the CCMA. • Implementation would result in economic gains, and no cost would be incurred by the city or NLDC. • No neighborhood relocation would be involved.	• The land uses off NUWC would continue to be in disparity with local zoning and state planning documents. • Would not meet the project goals, objectives, or vision for the Fort Trumbull area in total. • Would not complement Pfizer due to the discontinuity of sites. • Would not have a strong positive impact on downtown revitalization. • Public access to the waterfront would not be maximized. • Would not receive the benefit of positive roadway and utility improvements proposed in the MDP process. • Would not provide aesthetic improvements to the Fort and Gateway Areas. • Flood hazards would not be reduced. • Traffic and parking impacts would not be mitigated. • The existing building stock would continue to age.

TABLE 4.1-2
Advantages and Disadvantages of Alternative No. 2 – Recreation/Tourism

Advantages	Disadvantages
• Proposed waterfront uses are water dependent and are consistent with the CCMA. • Waterfront access would be provided by the proposed riverwalk. • Would maximize recreational uses and provide educational benefits as a result of museum uses. • Would be compatible with flood management policies. • Aesthetic and visual improvements would result.	• Proposed uses are not consistent with state and local land use policies for the area. • Would create fewer number of jobs and lower tax revenues as compared to other alternatives. • Would result in less spin-off economic activity as compared to other alternatives. • Would not have a strong positive impact on downtown revitalization. • May not have a strong funding source. • 100% neighborhood relocation would result from implementation of this alternative (but could be mitigated). • Traffic and parking impacts would result (but could be mitigated).

TABLE 4.1-3
Advantages and Disadvantages of
Alternative No. 3 – Residential/Commercial

Advantages	Disadvantages
• Proposed waterfront uses are water dependent and are consistent with the CCMA. • Waterfront access would be provided by the proposed riverwalk. • Will encourage private investment. • Minimal neighborhood relocation would be necessary. • Aesthetic and visual improvements would result.	• Proposed uses are not consistent with state and local land use policies for the area. • Would create fewer number of jobs and tax revenues as compared with other alternatives. • Would result in less spin-off economic activity as compared to other alternatives. • May not have a strong public funding source. • Would not have a strong positive impact on downtown revitalization. • Would locate residential uses in a flood hazard zone (but could be mitigated). • Traffic and parking impacts would result (but could be mitigated).

TABLE 4.1-4
Advantages and Disadvantages of
Alternative No. 4 – Business Campus

Advantages	Disadvantages
• Proposed uses are consistent with state and local land use policies for the area. • Proposed waterfront uses are water dependent and are consistent with the CCMA. • Waterfront access would be provided by the proposed riverwalk. • Would maximize number of jobs in close proximity to Pfizer. • Would create highest number of jobs and tax revenues as compared to other alternatives. • Would result in greatest spin-off economic activity as compared to other alternatives. • Aesthetic and visual improvements would result. • Would be consistent with and complement downtown revitalization.	• Would locate residential uses in a flood hazard zone (but could be mitigated). • Traffic and parking impacts would result (but could be mitigated). • 100% neighborhood relocation would result from implementation of this alternative (but could be mitigated).

TABLE 4.1-5
Advantages and Disadvantages of
Alternative No. 5 – Mixed Use 1

Advantages	Disadvantages
• Proposed uses are consistent with state and local land use policies for the area. • Proposed waterfront uses are water dependent and are consistent with the CCMA. • Waterfront access would be provided by the proposed riverwalk. • Would provide a balanced mix of land uses. • Will encourage private investment. • Would create jobs and tax revenues consistent with project goals. • Would result in spin-off economic activity consistent with project goals. • Aesthetic and visual improvements would result. • Would be consistent with and complement downtown revitalization.	• Would locate residential uses in a flood hazard zone (but could be mitigated). • Traffic and parking impacts would result (but could be mitigated). • Neighborhood relocation would result (but could be mitigated).

TABLE 4.1-6
Advantages and Disadvantages of
Alternative No. 6 – Mixed Use 2

Advantages	Disadvantages
• Proposed uses are consistent with state and local land use policies for the area. • Would provide a balanced mix of land uses. • Proposed waterfront uses are water dependent and are consistent with the CCMA. • Waterfront access would be provided by the proposed riverwalk. • Would create jobs and tax revenues consistent with project goals. • Would result in spin-off economic activity consistent with project goals. • Will encourage private investment. • Would be comparible with flood management policies. • Aesthetic and visual improvements would result. • Would be consistent with and complement downtown revitalization.	• 100% neighborhood relocation would result from implementation of this alternative (but could be mitigated). • Traffic and parking impacts would result (but could be mitigated).

TABLE 4.1-7
Fort Trumbull MDP Area Alternatives Impact Summary

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LAND USE CONCEPT ALTERNATIVE	GOALS & OBJECTIVES								IMPACTS												
	COMPLEMENT PFIZER	ECONOMIC STIMULATION	JOB CREATION	GENERATE TAX REVENUE	CREATE SPIN-OFF ACTIVITY	WATERFRONT ACCESS	WATER DEPENDENT USES	DOWNTOWN REVITILIZATION	LAND USE AND ZONING	SOCIOECONOMICS	NEIGHBORHOOD RELOCATION	COMMUNITY FACILITIES/SERVICES	AESTHETIC/VISUAL RESOURCES	PUBLIC UTILITIES AND SERVICES	CULTURAL RESOURCES	TRAFFIC AND PARKING	WATER RESOURCES	FLOOD HAZARD POTENTIAL	BIOLOGICAL ENVIRONMENT	PHYSICAL ENVIRONMENT	AIR QUALITY	NOISE	HAZARDOUS MATERIALS
Alternative 1 - No Action	●	+	+	+	+	O	+	O	+	+	+	O	O	O	O	●	O	●	O	O	O	O	O
Alternative 2 - Recreation/Tourism	O	O	O	O	O	+	+	O	●	O	●	O	+	O	O	●	O	+	O	O	O	O	O
Alternative 3 - Residential/Commercial	O	O	O	O	O	+	+	O	●	O	+	O	+	O	O	●	O	●	O	O	O	O	O
Alternative 4 - Business Campus	+	+	+	+	+	+	+	+	+	+	●	O	+	O	O	●	O	O	O	O	O	O	O
Alternative 5 - Mixed Use 1	+	+	+	+	+	+	+	+	O	+	●	O	+	O	O	●	O	●	O	O	O	O	O
Alternative 6 - Mixed Use 2	+	+	+	+	+	+	+	+	+	+	●	O	+	O	O	●	O	+	O	O	O	O	O

+ Consistent/Positive Impact O Marginally Consistent/Minimal Impact (Positive or Negative) ● Inconsistent/Negative Impact

4.2 Land Use and Zoning Impacts

4.2.1 Consistency With Relevant Policies and Programs

Detailed discussions of statewide land use policies, municipal zoning regulations, and coastal management policies are presented in Section 2.1 of this document. Brief summaries are presented below.

Statewide Land Use Policies

The majority of the Fort Trumbull MDP area has been designated in the *Conservation and Development Policies Plan for Connecticut* as an Urban Area Regional Center. Regional Centers encompass land areas containing traditional core commercial, industrial, transportation, specialized institutional services, and facilities of intertown significance.

State policy seeks to concentrate economic development to the extent possible in major urban centers, promoting infill development and intensification where appropriate. It is also intended to promote stability of urban communities and to support staged, orderly growth of urban development. The goals and objectives of the statewide plan are used to assess the consistency of proposed actions with state policy. State actions (including projects which are funded in whole or in part with state money) that influence the form and location of development or conservation because of investments in infrastructure, real property, physical facilities, and human services should conform to this strategy.

Pertinent goals of regional centers include revitalization of the economic base, revitalization of the quality of life for urban area residents, and economic development assistance emphasizing site cleanup, land

assembly, structural rehabilitation, and the location of labor-intensive businesses to revitalize the economic base. Priority should be given to. infrastructure proposals, new product development and facilities for start-up firms, location of appropriate state facilities within urban areas, promotion of recreational uses of urban rivers, and development of heritage parks.

Regional Land Use Goals and Objectives

In 1997, the Southeastern Connecticut Council of Governments (COG) published their *Regional Conservation and Development Policy Guide for Southeastern Connecticut.* The following major land use goals and objectives have been identified for the region.

Minimizing the risks of high unemployment and overdependence on a single industry has been identified by the COG as a major issue of concern. Their goal is a restructuring the regional economy in order to provide a balanced and diversified economic base through the creation of development opportunities. Improved coordination between the various entities having primary responsibilities with respect to economic development has been cited as the major objective in achieving this goal.

Developing a transportation system that provides access to regional resources for both residents, regionally employed, and visitors is also a key issue to the Southeastern Connecticut COG's planning efforts. The intent is to balance needs via several objectives outlined in the regional plan, including:

- coordination of policies among key transportation stakeholders;
- protection of natural and cultural resources during new system development;

- recognition of fiscal constraint;
- expansion of intermodal links; and,
- development of alternative modes of transportation, including mini-buses, ferries, bicycle and pedestrian paths, and light trails.

Additionally, provision of a public utility infrastructure system that balances the needs and protection of the region's population and resources is also a high priority. It is intended that development and expansion be focused within the region's core. Objectives identified for meeting this goal include the following:

- maintenance and improvement of public facilities such as water, sewer, and solid waste facilities;
- improved coordination between various utilities and authorities; and,
- encouragement of high density development in areas suitable to service.

Municipal Zoning Regulations

There is currently a disparity between land use and zoning in the Fort Trumbull MDP area. Three municipal zones occur within the project area. These are Waterfront Commercial/Industrial (WC-I), Waterfront Development District (WD), and General Commercial District (C-I). As would be expected, the majority of waterfront property is zoned WC-I and WD, with the interior parcels zoned C-1. There are no residential zones within the MDP boundary.

Municipal zoning can be modified as part of the MDP process. However, the Fort Trumbull area has been targeted for renewal and revitalization for many

years and the current zoning reflects the historic planning philosophy of the city.

Consistency of Program Elements with the Connecticut Coastal Management Act Policies

Coastal management policies, statutes, and regulations give highest priority and preference to uses and facilities which are dependent upon proximity to the water or the shorelands immediately adjacent to marine and tidal waters. Water-dependent uses are defined by the CCMA to be those uses which:

> require direct access to, or location in, marine or tidal waters and which therefore, cannot be located inland, including but not limited to: marinas, recreational and commercial fishing and boating facilities, finfish and shellfish processing plants, waterfront dock and port facilities, shipyards and boat building facilities, water-based recreational uses, navigation aides, basins and channels, industrial uses dependent upon waterborne transportation or requiring large volumes of cooling or process water which cannot reasonably be located or operated at an inland site and uses which provide general public access to marine or tidal waters [C.G.S. Section 22a-93(16)].

Numerous proposed waterfront uses have been reviewed for consistency with the CCMA with respect to water dependency, since these uses are common to numerous alternatives. Other aspects of CCMA consistency are addressed under their individual topics in this section of the document (i.e., flood control. biological resources, etc.). Moving from south to north along the perimeter of the peninsula, the following waterfront uses are proposed:

Riverwalk – A proposed riverwalk would follow the perimeter of the peninsula. This feature is intended to encourage public access to a water resource that has been unavailable to the general public for many decades. The riverwalk is proposed to be located primarily in state designated preservation areas, consistent with policies which are intended to discourage intensive development in these areas. Other uses, such as the proposed hotel site, residential, and office uses that are proposed in the various alternatives would occur landward of the riverwalk, thus providing public access directly adjacent to the waterfront. This philosophy is consistent with the CCMA and with recent Department of Environmental Protection approvals.

Regional Water Pollution Control Facility – Sewage treatment disposal is water dependent because of the need for a receiving waterbody for the large volume of treated wastewater effluent. The regional WPCF has been located along the Thames River in New London since 1929. The only anticipated modifications are related to improvements to odor control and aesthetics. No land use or zoning changes are proposed.

State Park – The CCMA encourages public access to the waters of Long Island Sound by expansion, development, and effective utilization of state-owned recreational facilities within the coastal area that are consistent with sound resource conservation procedures and constitutionally protected rights of private property owners. The development of the proposed Fort Trumbull State Park is therefore consistent with CCMA policy.

Navy/Coast Guard Facilities – These are existing operations which are located on the NUWC property waterfront. These would remain unchanged in their

nature. Water dependency is integral to these two organizations.

Waterfront Related Commercial/Columbia Cove Area – Two areas along the peninsula perimeter have been designated as water related or waterfront commercial. These are currently occupied in part by the Fort Trumbull Marina and the New London Seafood Distributors. Ongoing water-dependent uses are proposed under all alternatives, either as rehabilitated existing facilities or new water-dependent facilities.

4.2.2 Alternative No. 1 – No Action

Alternative 1 assumes change only to the NUWC property. This area is currently zoned as a Waterfront Commercial/Industrial District. Current land use is a vacant naval base facility, with limited activities. Land uses and zoning off the NUWC property would reflect current conditions.

The majority of the NUWC property is designated as a regional center in the *Conservation and Development Policies Plan for Connecticut*. The fringes of this land mass are classified as either *Conservation* or *Preservation* areas, presumably due to their flood prone nature immediately adjacent to the Thames River.

The proposed land uses at the NUWC site under this alternative include a 16-acre state park, an area identified as municipal maritime conveyance, and public sale for business office uses. These are consistent with local zoning classifications as well as regional and statewide planning documents.

The coastal management regulations and guidelines give high priority and preference to uses and facilities which are dependent upon proximity to the water or

the shorelands immediately adjacent to marine and tidal waters. A state park and ferry terminal would likely be viewed by the Department of Environmental Protection as water-dependent land uses. The proposed business/office use is located inland from the waterfront.

4.2.3 Alternative No. 2 – Recreation/Tourism

The Recreation/tourism alternative includes an expanded state park and other recreational amenities in the Fort and NUWC portions of the MDP area, along with several water-related and waterfront commercial uses. Office and retail uses are concentrated in the Gateway Area, west of the Amtrak rail line and away from the Thames River waterfront.

Although recreational facilities offer positive benefits with respect to public use and public access to the waterfront, they do not promote the overall goals and objectives of local, regional, or statewide planning policies and philosophies. This issue alone may not preclude development as proposed under this alternative. However, it is a significant factor in evaluating its consistency with pertinent land use planning policies. Office and retail uses, proposed in the interior Gateway Area, are consistent with local, regional, and statewide policies.

4.2.4 Alternative No. 3 – Residential/Commercial

The proposed uses under this alternative, particularly those east of the Amtrak railroad, are less intensive than existing land uses or that which is allowed under current zoning regulations. A predominantly residential use does not promote local, regional, or statewide planning policies and philosophies and does not meet the identified objectives and goals which are

used to assess consistency of a proposed action in urban regional centers. Likewise, zoning in the project area has not been specifically designated for residential uses. However, similar to Alternative 2, this issue alone may not preclude development as proposed under this alternative.

The proposed marina/waterfront commercial and water-related commercial uses east of the railroad line are in keeping with state land use planning policies and local zoning regulations. Similarly, commercial and retail uses in the Gateway Area are consistent with the same.

4.2.5 Alternative No. 4 – Business Campus

The majority of land uses associated with the business campus scenario are consistent with statewide planning policies and with local zoning regulations. The Gateway Area provides a mix of office and retail uses, with a small amount of residential uses on the west side of Howard Street.

4.2.6 Alternative No. 5 – Mixed Use 1

This alternative provides a more balanced mix of uses in the MDP area. Although residential uses are not explicitly encouraged in regional centers, the area of residential use in the Fort and NUWC areas is offset by the concentrated office/incubator uses in the Gateway Area. The business office. retail, and hotel/conference center uses are consistent with statewide policies and local zoning regulations.

4.2.7 Alternative No. 6 – Mixed Use 2

This alternative is similar to Alternative 5 in that it provides a balanced mix of uses without a disproportionate amount of residential land uses. The Gateway Area supports a strong office/incubator use to offset the residential use in the Fort Area. The expanded Hotel/Conference Center is better suited to meet economic goals. These latter uses are consistent with statewide policies and local zoning regulations.

4.3 Socioeconomic Impacts

Key socioeconomic impacts have been estimated for each of the six alternatives. Included in the impact analysis is a review of the potential for job creation, including direct jobs, indirect jobs, and construction employment. An estimate of the net property tax gain is also presented for each alternative, which includes the projected decline in valuation associated with demolition of existing structures, as well as the projected increase in valuation associated with the construction of new facilities. A discussion of the economic costs and benefits is also presented for each alternative.

4.3.1 Methodology

In order to estimate the tax impacts associated with each of the alternative land use plans, several sources of information were utilized. The estimated current value of facilities in the study area is based on individual building assessments, as provided by the New London assessor's office. The level of new construction activity for each alternative is as presented in Section 3.0 of this document. Construction costs for each type of facility were developed based on construction cost data provided by the Marshall & Swift Valuation

Service, a well known construction cost estimating guide. These construction cost estimates serve as the basis for estimating property tax revenues for the development alternatives.

The baseline estimates for jobs within the MDP area (as well as housing units and occupancy) are based on windshield surveys of the area and on information gathered through a review of property tax cards provided by the New London assessor's office. The study area was toured on several occasions to determine occupancy and to compare field observations with information provided by the assessor's office.

Estimates of potential direct employment are based on multipliers provided by the Urban Land Institute (ULI). ULI tracks development trends throughout the United States and has estimated ranges of the square footage required for each employee by industry. Some of the key components of this information are included in Table 4.3-1.

TABLE 4.3-1
Square Footage Per Employee by Industry

Industry	Low SF Per Employee	High SF Per Employee
Office	200	400
Retail	250	650
Parks & Outdoor Recreation	108,900	174,240
Recreation & Athletic Facilities	500	2,000
Hotels[1]	2.9 rooms per employee	2.0 rooms per employee

Source: Urban Land Institute

[1]Although ULI does not track hotels as a separate category, information for New London has been developed based on data obtained from the U.S. Bureau of the Census.

These figures have been used to create a range of direct employment for each alternative, based on the build-out estimates presented in Section 3.0. In order to estimate the indirect or induced employment for each industry, the findings of the U.S. Department of Commerce's Regional Input-Output Modeling System, known as RIMS II, were utilized. The RIMS II model calculates induced employment by industry for each state. Indirect or induced employment is created as workers (direct jobs) spend their earnings in the regional economy for food, clothing, housing, automobiles, etc. As these earnings are "recycled" through the economy, additional jobs are created at food stores, clothing stores, and the like. The key Connecticut multipliers used in this analysis are summarized in Table 4.3-2.

TABLE 4.3-2
RIMS II Multipliers by Land Use Category

Land Use Category	RIMS II Multiplier
State Park	0.5392
Columbia Cove Area	0.5392
Water-Related Commercial	0.4992
Hotel	0.5392
Recreation Center	0.5392
Outdoor Recreation Area	0.5392
Museum(s)	0.5392
Hotel/Conference Center	0.5392
Residential Mid-Range	0.0000
Residential High-End	0.0000
Athletic Club	0.5392
Office (Existing)	0.7433
Office/Incubator	0.7433
Retail	0.4992
R&D/Office	0.7433
Waterfront Commercial	0.4992

Source: U.S. Department of Commerce

As illustrated in Table 4.3-2, every direct job created in the retail sector creates an additional 0.4992 jobs elsewhere in the economy. The higher multipliers associated with new office development are related to the nature of the development associated with Pfizer and the generally higher multiples of R&D and manufacturing operations.

Estimates of construction jobs associated with new development in the study area are based on the projected construction costs for each facility, as determined through the Marshall & Swift Valuation Service. Based on the total construction cost for each land use alternative, total construction wages have been estimated at 45% of construction costs. Using the average construction wages for southeastern Connecticut of $38,388, as provided by the Connecticut Department of Labor, the number of person-years of construction employment associated with each land use alternative can be estimated. For example, if construction wages are estimated to be $5,000,000, a total of 130.25 person-years of construction employment would be created at an average wage of $38,388.

It is important to note that all financial information contained in this document is stated in 1998 dollars. No allowance has been made for inflation or the timing of revenues and/or expenses.

4.3.2 Alternative No. 1 - No Action

Alternative 1 is referred to as the No Action alternative. However, this name is somewhat misleading, since the implementation of this alternative includes creation of a state park on a portion of the former U.S. Navy Undersea Warfare Center (NUWC) site as well as private development of approximately 380,000 square feet of non-residential facilities at NUWC.

Job Creation

The implementation of this alternative is anticipated to create between 1,080 and 1,779 direct jobs. The majority of these jobs (950 to 1,520) are related to the reuse of the former NUWC facilities by private sector entities. The occupancy of an existing under-utilized office building accounts for an additional 126 to 253 jobs. The remaining jobs are associated with the creation of the state park. No existing jobs are expected to be lost under this alternative, with the exception of the NUWC caretaker staff, estimated to be between 10 and 15. Additional indirect jobs are estimated to be between 802 and 1,321. This brings the total number of net new direct and indirect jobs associated with this alternative to between 1,872 and 3,085.

Tax Revenue Created/Lost

The implementation of this alternative will add new property to the city's tax base in the form of the former NUWC property, which was tax-exempt due to federal government ownership. Based on an analysis of properties within the study area, the average property assessment is estimated to be $26.00 per square foot of building area. Using the estimated 380,000 square feet of facilities at NUWC which would be developed, the city's tax base would increase by $9.88 million. Using the tax rate of $27.30 per $1,000 of valuation, property tax revenue for the City of New London would increase by approximately $270,000.

4.3.3 Alternative No. 2 - Recreation/Tourism

The development program of Alternative 2 is summarized in the Table 4.3-3.

TABLE 4.3-3
Development Program – Alternative 2 – Recreation/Tourism

Land Use	Programmed Development
State Park	30 Acres
Columbia Cove Area	80 – 100 Slips
Water-Related Commercial	25,000 – 30,000 SF
Hotel	80 Rooms
Recreation Center	25,000 SF
Museum(s)	55,000 – 70,000 SF
Office (Existing)	50,500 SF
Office/Incubator	80,000 SF
Retail	20,000 SF
R&D/Office	5,000 SF
Waterfront Commercial	25,000 SF

Based on the identified development program, the projected job creation associated with this alternative has been estimated. Direct job creation is projected to be between 506 and 1,019. Due to the density of employment, office uses contribute the largest number of jobs, accounting for 339 jobs under the low estimate and 598 under the high estimate. Table 4.3-4 provides the estimated job creation by land use category.

TABLE 4.3-4
Estimated Range of Direct Employment – Alternative 2 – Recreation/Tourism

Direct Employment	Low Estimate Employees	High Estimate Employees
State Park	8	12
Columbia Cove Area	1	5
Water-Related Commercial	46	120
Hotel	27	40
Recreation Center	13	50
Museum(s)	4	14
Office (Existing)	126	253
Office/Incubator	200	320
Retail	31	80
R&D Office	13	25
Waterfront Commercial	38	180
Total	506	1,019

Source: Urban Land Institute and RKG Associates, Inc.

As an offset to the jobs created under this alternative, it is necessary to subtract the existing jobs in the study area. It is estimated that 148 to 222 people currently work within the MDP area. Eliminating these jobs brings the net gain from this alternative to between 358 and 797 jobs.

Additional indirect jobs will also be created in the regional economy, based on the recirculation of wages and purchases through the economy. It is estimated that between 337 and 659 indirect jobs will be created, as detailed in Table 4.3-5.

TABLE 4.3-5
Estimated Range of Indirect Employment –
Alternative 2 – Recreation/Tourism

Land Use Category	Low Estimate	High Estimate
State Park	4	6
Columbia Cove Area	1	3
Water-Related Commercial	23	60
Hotel	15	22
Recreation Center	7	27
Museum(s)	2	8
Office (Existing)	94	188
Office/Incubator	149	238
Retail	15	40
R&D Office	9	19
Waterfront Commercial	19	50
Total	337	659

The construction of new facilities in the study area will also generate additional employment in the form of short-term construction jobs. Implementation of this alternative is expected to result. in between $28.2 and $58.1 million in new construction within the area. Assuming that 45% of this cost is for wages, between $12.7 million and $26.1 million in construction wages will be paid out. Using the average construction wage of $38,388 for the region, 331 to 681 person-years of construction employment will be created.

Tax Revenue Created/Lost

The implementation of this alternative is expected to generate between $28.2 and $58.1 million in new construction activity. The projected construction costs are detailed in the Table 4.3-6.

TABLE 4.3-6
Estimated Construction Costs –
Alternative 2 – Recreation/Tourism

Land Use Category	Low Estimate	High Estimate
State Park	$6,000,000	$22,500,000
Columbia Cove Area	$450,000	$750,000
Water-Related Commercial	$1,855,500	$2,941,800
Hotel	$3,676,800	$4,459,680
Recreation Center	$1,591,000	$2,299,000
Museum(s)	$6,471,500	$9,201,500
Office/Incubator	$5,085,600	$10,855,200
Retail	$1,237,000	$1,961,200
R&D Office	$317,850	$678,450
Waterfront Commercial	$1,546,250	$2,451,500
Total	$28,231,500	$58,098,330

Source: Marshall & Swift Valuation Service and RKG Associates, Inc.

Assuming that these facilities are assessed at an average of 70% of their construction cost, the New London tax base would expand by between $19.8 million and $40.7 million. However, the demolition of existing structures in this area must also be accounted for. Approximately $6 million in existing tax base will be eliminated to implement this plan, making the net increase in the tax base between $13.8 million and $34.7 million. This translates into a net increase in property tax revenues of between $375,000 and $950,000.

4.3.4 Alternative No. 3 – Residential/Commercial

The development program of Alternative 3 is summarized in the Table 4.3-7.

TABLE 4.3-7 Development Program – Alternative 3 – Residential/Commercial

Land Use	Development
State Park	16 Acres
Columbia Cove Area	80-100 Slips
Water-Related Commercial	25,000-30,000 SF
Outdoor Recreation Area	3.5 Acres
Residential Mid-Range	135 Units
Residential High-End	160 Units
Office (Existing)	50,500 SF
Office/Incubator	30,000 SF
Retail	20,000 SF
R&D/Office	5,000 SF
Waterfront Commercial	25,000 SF

Job Creation

Based on the identified development program, the projected job creation associated with this alternative has been estimated. Direct job creation is projected to be between 335 and 710. Office uses contribute the largest number of jobs. accounting for 376 jobs under the low estimate and 398 under the high estimate. Table 4.3-8 provides the estimated job creation by land use category.

TABLE 4.3-8 Estimated Range of Direct Employment – Alternative 3 – Residential/Commercial

	Direct Employment	
Land Use Category	Low Estimate	High Estimate
State Park	4	6
Columbia Cove Area	1	5
Water-Related Commercial	46	120
Outdoor Recreation Area	1	1
Office (Existing)	126	253
Office/Incubator	75	120
Retail	31	80
R&D Office	13	25
Waterfront Commercial	38	100
Total	335	710

Source: Urban Land Institute and RKG Associates, Inc.

As an offset to the jobs created under this alternative, it is necessary to subtract the existing jobs in the study area. It is estimated that 148 to 222 people currently work within the study area. Eliminating these jobs brings the net gain from this alternative to between 187 and 488 jobs.

Additional indirect jobs will also be created in the regional economy, based on the recirculation of wages and purchases through the economy. It is estimated that between 220 and 452 indirect jobs will be created, as detailed in Table 4.3-9.

TABLE 4.3-9
Estimated Range of Indirect Employment –
Alternative 3 – Residential/Commercial

Land Use Category	Indirect Employment	
	Low Estimate	High Estimate
State Park	2	3
Columbia Cove Area	1	3
Water-Related Commercial	23	60
Outdoor Recreation Area	0	1
Office (Existing)	94	188
Office/Incubator	56	89
Retail	15	40
R&D Office	9	19
Waterfront Commercial	19	50
Total	220	452

Source: U.S. Department of Commerce and RKG Associates, Inc.

The construction of new facilities in the MDP area will also generate additional employment in the form of short-term construction jobs. Implementation of this alternative is expected to result in between $40.1 and $64.2 million in new construction within the study area. Assuming that 45% of this cost is for wages. between $18.1 million and $28.9 million in construction wages will be paid out. Using the average construction wage of $38,388 for the region, 470 to 753. person-years of construction employment will be created.

Tax Revenue Created/Lost

The implementation of this alternative is expected to generate between $40.1 and $64.2 million in new construction activity. The projected construction costs are detailed in the Table 4.3-10.

TABLE 4.3-10
Estimated Construction Costs –
Alternative 3 – Residential/Commercial

Land Use Category	Construction Costs	
	Low Estimate	High Estimate
State Park	$3,200,000	$12,000,000
Columbia Cove Area	$450,000	$750,000
Water-Related Commercial	$1,855,500	$2,941,800
Outdoor Recreation Area	$105,000	$393,750
Residential Mid-Range	$8,049,780	$13,130,100
Residential High-End	$21,463,200	$25,872,000
Office/Incubator	$1,907,100	$4,070,700
Retail	$1,237,000	$1,961,200
R&D/Office	$317,850	$678,450
Waterfront Commercial	$1,546,250	$2,451,500
Total	$40,131,680	$64,249,500

Source: Marshall Valuation Service and RKG Associates, Inc.

Assuming that these facilities are assessed at an average of 70% of their construction cost, the New London tax base would expand by between $28.1 million and $45.0 million. However, the demolition of existing structures in this area must also be accounted for. Approximately $6 million in existing tax base will be eliminated to implement this plan, making the net increase in the tax base between $22.1 million and $39.0 million. This translates into a net increase in property tax revenues of between $600,000 and $1.1 million.

4.3.5 Alternative No. 4 – Business Campus

Alternative 4 focuses on development of the study area as a business campus. The development program for this alternative is summarized in the Table 4.3-11.

TABLE 4.3-11 Development Program – Alternative 4 – Business Campus

Land Use	Proposed Development
State Park	16 Acres
Columbia Cove Area	80-100 Slips
Water-Related Commercial	25,000-30,000 SF
Hotel/Conference Center	200 Rooms
Residential Mid-Range	30 Units
Office (Existing)	50,500 SF
Office/Incubator	380,000-405,000 SF
Retail	15,000 SF
R&D/Office	5,000 SF
Waterfront Commercial	20,000-25,000 SF

Job Creation

Based on the identified development program, the job creation associated with this alternative has been estimated. Direct job creation is projected to be between 1,332 and 2,289. Office positions account for a large percentage of total job creation, with 1,150 to 1,700 jobs. Table 4.3-12 provides the estimated job creation by land use category.

TABLE 4.3-12 Estimated Range of Direct Employment – Alternative 4 – Business Campus

	Direct Employment	
Land Use Category	Low Estimate	High Estimate
State Park	4	6
Columbia Cove Area	1	5
Water-Related Commercial	46	120
Hotel/Conference Center	68	100
Office (Existing)	126	253
Office/Incubator	1,013	1,620
Retail	23	60
R&D/Office	13	25
Waterfront Commercial	38	100
Total	1,332	2,289

Source: Urban Land Institute and RKG Associates, Inc.

As an offset to the jobs created under this alternative, it is necessary to subtract the existing jobs in the study area. It is estimated that 148 to 222 people currently work within the study area. Eliminating these jobs brings the net gain from this alternative to between 1,184 and 2,067 jobs. Additional indirect jobs will also be created in the regional economy, based on the recirculation of wages and purchases through the economy. It is estimated that between 949 and 1,610 indirect jobs will be created, as detailed in Table 4.3-13.

TABLE 4.3-13 Estimated Range of Indirect Employment – Alternative 4 – Business Campus

	Indirect Employment	
Land Use Category	Low Estimate	High Estimate
State Park	2	3
Columbia Cove Area	1	3
Water-Related Commercial	23	60
Hotel/Conference Center	37	54
Office (Existing)	94	188
Office/Incubator	753	1,204
Retail	12	30
R&D/Office	9	19
Waterfront Commercial	19	50
Total	949	1,610

Source: U.S. Department of Commerce and RKG Associates, Inc.

The construction of new facilities in the study area will also generate additional employment, in the form of short-term construction jobs. Implementation of this alternative is expected to result in between $56.8 and $104.2 million in new construction within the MDP area. Assuming that 45% of this cost is for wages, between $25.5 million and $46.9 million in construction wages will be paid out. Using the average construction

wage of $38,388 for the region, 665 to 1,222 person-years of construction employment will be created.

Tax Revenue Created/Lost

The implementation of this alternative is expected to generate between $60.9 and $104.2 million in new construction activity. The projected construction costs are detailed in the Table 4.3-14.

TABLE 4.3-14
Estimated Construction Costs –
Alternative 4 - Business Campus

Land Use Category	Construction Costs	
	Low Estimate	High Estimate
State Park	$3,200,000	$12,000,000
Columbia Cove Area	$450,000	$750,000
Water-Related Commercial	$1,855,500	$2,941,800
Hotel/Conference Center	$20,920,000	$26,038,000
Residential Mid-Range	$1,788,840	$2,917,800
Office/Incubator	$25,745,850	$54,954,450
Retail	$927,750	$1,470,900
R&D/Office	$317,850	$678,450
Waterfront Commercial	$1,546,250	$2,451,500
Total	$56,752,040	$104,202,900

Source: Marshall Valuation Service and RKG Associates, Inc.

Assuming that these facilities are assessed at an avenge of 70% of their construction cost, the New London tax base would expand by between $39.7 million and $72.9 million. However, the demolition of existing structures in this area must also be accounted for. Approximately $5.6 million in existing tax base will be eliminated to implement this plan, making the net increase in the tax base between $34.10 million and $67.3 million. This translates into a net increase

in property tax revenues of between $930,000 and $1.8 million at full build-out.

4.3.6 Alternative No. 5 – Mixed Use 1

Alternative 5 focuses on mixed use development of the study area. The development program is summarized in the Table 4.3-15.

TABLE 4.3-15
Development Program –
Alternative 5 – Mixed Use 1

Land Use	Proposed Development
State Park	16 Acres
Columbia Cove Area	80-100 Slips
Water-Related Commercial	25,000-30,000 SF
Hotel/Conference Center	200 Rooms
Residential Mid-Range	115 Units
Athletic Club	25,000 SF
Office (Existing)	50,500 SF
Office/Incubator	100,000 SF
Retail	10,000 SF
R&D/Office	5,000 SF
Waterfront Commercial	20,000-25,000 SF

Job Creation

Based on the identified development program, the job creation associated with this alternative has been estimated. Direct job creation is projected to be between 574 and 1,099. Due to the density of employment, office uses contribute the largest number of jobs, accounting for 389 jobs under the low estimate and 678 under the high estimate. Table 4.3-16 provides the estimated job creation by land use category.

TABLE 4.3-16
Estimated Range of Direct Employment – Alternative 5 – Mixed Use 1

Land Use Category	Direct Employment	
	Low Estimate	High Estimate
State Park	4	6
Columbia Cove Area	1	5
Water-Related Commercial	46	120
Hotel/Conference Center	68	100
Athletic Club	13	50
Office (Existing)	126	253
Office/Incubator	250	400
Retail	15	40
R&D/Office	13	25
Waterfront Commercial	38	100
Total	574	1,099

Source: Urban Land Institute and RKG Associates, Inc.

As an offset to the jobs created under this alternative, it is necessary to subtract the existing jobs in the study area. It is estimated that 148 to 222 people currently work within the study area. Eliminating these jobs brings the net gain from this alternative to between 426 and 877 jobs.

Additional indirect jobs will also be created in the regional economy, based on the recirculation of wages and purchases through the economy. It is estimated that between 385 and 720 indirect jobs will be created, as detailed in Table 4.3-17.

TABLE 4.3-17
Estimated Range of Indirect Employment – Alternative 5 – Mixed Use 1

Land Use Category	Indirect Employment	
	Low Estimate	High Estimate
State Park	2	3
Columbia Cove Area	1	3
Water-Related Commercial	23	60
Hotel/Conference Center	37	54
Athletic Club	7	27
Office (Existing)	94	188
Office/Incubator	186	297
Retail	8	20
R&D/Office	9	19
Waterfront Commercial	19	50
Total	385	720

Source: U.S. Department of Commerce and RKG Associates, Inc.

The construction of new facilities in the study area will also generate additional employment in the form of short-term construction jobs. Implementation of this alternative is expected to result in between $43.7 and $72.9 million in new construction within the study area. Assuming that 45% of this cost is for wages, between $19.7 million and $32.8 million in construction wages will be paid out. Using the average construction wage of $38,388 for the region, 512 to 854 person-years of construction employment will be created.

Tax Revenue Created/Lost

The implementation of this alternative is expected to generate between $47.8 and $72.9 million in new construction activity. The projected construction costs are detailed in Table 4.3-18.

TABLE 4.3-18
Estimated Construction Costs –
Alternative 5 – Mixed Use 1

Land Use Category	Construction Costs	
	Low Estimate	High Estimate
State Park	$3,200,000	$12,000,000
Columbia Cove Area	$450,000	$750,000
Water-Related Commercial	$1,855,500	$2,941,800
Hotel/Conference Center	$20,920,000	$26,038,000
Residential Mid-Range	$6,857,220	$11,184,900
Athletic Club	$1,591,000	$2,299,000
Office/Incubator	$6,357,000	$13,569,000
Retail	$618,500	$980,600
R&D/Office	$317,850	$678,450
Waterfront Commercial	$1,546,250	$2,451,500
Total	$43,713,320	$72,893,250

Source: Marshall Valuation Service and RKG Associates, Inc.

Assuming that these facilities are assessed at an average of 70% of their construction cost, the New London tax base would expand by between $30.6 million and $51.0 million. However, the demolition of existing structures in this area must also be accounted for. Approximately $6 million in existing tax base will be demolished to implement this plan, making the net increase in the tax base between $24.6 million and $45.0 million. This translates into a net increase in property tax revenues of between $670,000 and $1.2 million.

4.3.7 Alternative No. 6 – Mixed Use 2

Alternative 6 focuses on mixed use development of the study area. The development program is summarized in the Table 4.3-19.

TABLE 4.3-19
Development Program –
Alternative 6 – Mixed Use 2

Land Use	Proposed Development
State Park	16 Acres
Columbia Cove Area	80-100 Slips
Water-Related Commercial	25,000-30,000 SF
Hotel/Conference Center	250 Rooms
Residential Mid-Range	115 Units
Athletic Club	25,000 SF
Office (Existing)	50,500 SF
Office/Incubator	100,000 SF
Retail	10,000 SF
R&D/Office	5,000 SF
Waterfront Commercial	20,000-25,000 SF

Job Creation

Based on the identified development program, the job creation associated with this alternative has been estimated. Direct job creation is projected to be between 591 and 1,124. Due to the density of employment, office uses contribute the largest number of jobs, accounting for 389 jobs under the low estimate and 678 under the high estimate. Table 4.3-20 provides the estimated job creation by land use category.

TABLE 4.3-20
Estimated Range of Direct Employment –
Alternative 6 – Mixed Use 2

Land Use Category	Direct Employment	
	Low Estimate	High Estimate
State Park	4	6
Columbia Cove Area	1	5
Water Related Commercial	46	120
Hotel/Conference Center	85	125
Athletic Club	13	50
Office (Existing)	126	253
Office/Incubator	250	400
Retail	15	40
R&D/Office	13	25
Waterfront Commercial	38	100
Total	591	1,124

Source: Urban Land Institute and RKG Associates, Inc.

As an offset to the jobs created under this alternative. it is necessary to subtract the existing jobs in the study area. It is estimated that 148 to 222 people currently work within the study area. Eliminating these jobs brings the net gain from this alternative to between 443 and 902 jobs.

Additional indirect jobs will also be created in the regional economy, based on the recirculation of wages and purchases through the economy. It is estimated that between 394 and 734 indirect jobs will be created, as detailed in Table 4.3-21.

The construction of new facilities in the study area will also generate additional employment in the form of short-term construction jobs. Implementation of this alternative is expected to result in between $48.9 and $79.4 million in new construction within the study area. Assuming that 45% of this cost is for wages, between $22.0 million and $35.7 million in

construction wages will be paid out. Using the average construction wage of $38,388 for the region, 574 to 931 person-years of construction employment will be created.

TABLE 4.3-21
Estimated Range of Indirect Employment –
Alternative 6 – Mixed Use 2

Land Use Category	Indirect Employment	
	Low Estimate	High Estimate
State Park	2	3
Columbia Cove Area	1	3
Water-Related Commercial	23	60
Hotel/Conference Center	46	67
Athletic Club	7	27
Office (Existing)	94	188
Office/Incubator	186	297
Retail	8	20
R&D/Office	9	19
Waterfront Commercial	19	50
Total	394	734

Source: U.S. Department of Commerce and RKG Associates, Inc.

Tax Revenue Created/Lost

The implementation of this alternative is expected to generate between $48.9 and $79.4 million in new construction activity. The projected construction costs are detailed in Table 4.3-22.

TABLE 4.3-22
Estimated Construction Costs –
Alternative 6 – Mixed Use 2

	Construction Costs	
Land Use Category	**Low Estimate**	**High Estimate**
State Park	$3,200,000	$12,000,000
Columbia Cove Area	$450,000	$750,000
Water-Related Commercial	$1,855,500	$2,941,800
Hotel/Conference Center	$26,150,000	$32,547,500
Residential Mid-Range	$6,857,220	$11,184,900
Athletic Club	$1,591,000	$2,299,000
Office/Incubator	$6,357,000	$13,569,000
Retail	$618,500	$980,600
R&D/Office	$317,850	$678,450
Waterfront Commercial	$1,546,250	$2,451,500
Total	$48,943,320	$79,402,750

Source: Marshall Valuation Service and RKG Associates, Inc.

Assuming that these facilities are assessed at an average of 70% of their construction cost, the New London tax base would expand by between $34.2 million and $55.6 million. However, the demolition of existing structures in this area must also be accounted for. Approximately $6 million in existing tax base will be demolished to implement this plan, making the net increase in the tax base between $28.2 million and $49.6 million. This translates into a net increase in property tax revenues of between $770,000 and $1.4 million.

4.3.8 Summary

The six land use alternatives for the study area have impacts that are widely varied. Table 4.3-23 provides an indication of the range of direct employment associated with each of the six land use alternatives

proposed for the study area. Implementation of any of the six alternatives (including the no action alternative) would result in a net increase in jobs and property tax revenues.

Alternative 4 (Business Campus) is the highest generator of jobs, followed by Alternatives 1, 6, 5, 2, and 3. It is interesting to note that Alternative 1 (No Action) generates the second highest number of jobs (1,779), behind only the Business Campus Alternative (#4). This is because the No Action Alternative anticipates the reuse of approximately 380,000 square feet of existing facilities at the Naval Undersea Warfare Center (NUWC). The reuse of this space accounts for more than 1,500 of the 1,779 jobs to be created under this alternative.

In addition to these direct jobs, the six alternatives are also expected to result in the creation of additional employment opportunities. These indirect jobs are expected to be created as direct employees on the site spend their wages in the regional economy for food, clothing, etc. Table 4.3-24 provides an estimate of the projected number of indirect jobs expected to be created in the study area for each of the six land use alternatives.

The land use alternatives for the study area also have varied projected construction impacts. Total construction costs range from as low as $3.2 million to as high as $113.0 million. Estimates of construction wages range from as low as $1.4 million to as high as $51 million. Between 37 and 1,304 person-years of construction are expected to be created through these projects, as shown in Table 4.3-25.

New tax revenues are projected to range from a modest $57,000 to as much as $2.0 million as presented in Table 4.3-26.

TABLE 4.3-23
Range of Employment Estimates by Land Use Alternative

(Direct Employment – Low Estimate)

Land Use Category	Alt. 1 No Action	Alt. 2 Recreation/ Tourism	Alt. 3 Residential/ Commercial	Alt. 4 Business Campus	Alt. 5 Mixed Use 1	Alt 6 Mixed Use 2
State Park	4	8	4	4	4	4
Columbia Cove Area	-	1	1	1	1	1
Water-Related Commercial	-	46	46	46	46	46
Hotel	-	27	-	-	0	-
Recreation Center	-	13	-	-	0	-
Outdoor Recreation Area	-	-	1	-	0	-
Museum(s)	-	4	-	-	0	-
Hotel/Conference Center	-	-	-	68	68	85
Residential Mid-Range	-	-	-	-	-	-
Residential High-End	-	-	-	-	-	-
Athletic Club	-	-	-	-	13	13
Office (Existing)	126	126	126	126	126	126
Office/Incubator	950	200	75	1,013	250	250
Retail	-	31	31	23	15	15
R&D/Office	-	13	13	13	13	13
Waterfront Commercial	-	38	38	38	38	38
Total	**1,080**	**506**	**335**	**1,332**	**574**	**591**

(Direct Employment – High Estimate)

Land Use Category	Alt. 1 No Action	Alt. 2 Recreation/ Tourism	Alt. 3 Residential/ Commercial	Alt. 4 Business Campus	Alt. 5 Mixed Use 1	Alt 6 Mixed Use 2
State Park	6	12	6	6	6	6
Columbia Cove Area	-	5	5	5	5	5
Water-Related Commercial	-	120	120	120	120	120
Hotel	-	40	-	-	-	-
Recreation Center	-	50	-	-	-	-
Outdoor Recreation Area	-	-	1	-	-	-
Museum(s)	-	14	-	-	-	-
Hotel/Conference Center	-	-	-	100	100	125
Residential Mid-Range	-	-	-	-	-	-
Residential High-End	-	-	-	-	-	-
Athletic Club	-	-	-	-	50	50
Office (Existing)	253	253	253	253	253	253
Office/Incubator	1,520	320	120	1,620	400	400
Retail	-	80	80	60	40	40
R&D/Office	-	25	25	25	25	25
Waterfront Commercial	-	100	100	100	100	100
Total	**1,779**	**1,019**	**710**	**2,289**	**1,099**	**1,124**

TABLE 4.3-24
Range of Indirect Job Creation by Land Use Alternative

	Alternative 1 No Action	Alternative Recreation/ Tourism 2	Alternative 3 Residential/ Commercial	Alternative 4 Business Campus	Alternative 5 Mixed Use 1	Alternative 6 Mixed Use 2
Low Estimate	802	337	220	949	385	394
High Estimate	1,321	659	452	1,610	720	734

Source: U.S. Department of Commerce and RKG Associates, Inc.

TABLE 4.3-25
Summary of Construction Impacts by Land Use Alternative

	Alt. 1 No Action	Alt. 2 Recreation/ Tourism 2	Alt. 3 Residential/ Commercial	Alt. 4 Business Campus—	Alt. 5 Mixed Use 1	Alt. 6 Mixed Use 2
Construction Costs – Low	$3,200,000	28,321,500	40,131,680	56,752,040	43,713,320	48,943,320
Construction Costs – High	$12,000,000	58,098,330	64,249,500	104,202,900	72,893,250	79,402,750
Construction Wages – Low	$1,440,000	12,704,175	18,059,256	25,538,428	19,670,994	22,024,494
Construction Wages – High	$5,400,000	26,144,249	28,912,275	46,891,305	32,801,963	35,731,238
Construction Employment – Low	38	331	470	665	512	574
Construction Employment – High	141	681	753	1,222	854	931

Source: Marshall Valuation Service and RKG Associates, Inc.

TABLE 4.3-26
Summary of Tax Revenues Generated by Land Use Alternative

	Alt. 1 No Action	Alt. 2 Recreation/ Tourism 2	Alt. 3 Residential/ Commercial	Alt. 4 Business Campus	Alt. 5 Mixed Use 1	Alt. 6 Mixed Use 2
Tax Revenues – Low	$61,152	375,704	603,116	931,651	671,562	771,507
Tax Revenues – High	$229,320	946,459	1,064,008	1,838,437	1,229,190	1,353,587

Source: Marshall Valuation Service and RKG Associates, Inc.

4.4 Neighborhood/Housing Impacts

The overall character of the Fort Trumbull area will be enhanced by the disposition of a portion of the NUWC property (±16 acres) to the Department of Environmental Protection for the creation of a state-owned and operated park. This park will have a positive impact on the neighborhood, both physically and economically. An aesthetically pleasing park would beautify the area, significantly increase useable open space, provide public access to the waterfront, and, as a consequence of this $20 million public investment, increase surrounding land values to the benefit of the residents. These benefits will accrue to each of the alternatives to be discussed herein.

4.4.1 Alternative No. 1 – No Action

The development of the NUWC property alone would not directly impact the area's housing stock since the No Action plan calls for only the creation of areas for open space, maritime conveyance, and public sale. There would be no project generated changes in the residential or commercial properties in the Fort Trumbull MDP area. However, private investment in the existing building stock would likely be stimulated by development of the State Park and, depending on the future use of the NUWC area to be sold, further investment in residential and commercial properties is possible.

4.4.2 Alternative No. 2 – Recreation/Tourism

Both the Fort and Gateway Areas would be significantly impacted by a reuse option geared toward recreation and tourism. The state park at Fort Trumbull will serve to improve the appearance and waterfront accessibility of the area. The NUWC site has served

various military purposes since the American Revolution and has not been generally open to the public. Amenities such as a recreation center, museum, and the riverwalk would provide activities for New London residents to enjoy as well as tourist coming to this new destination. New opportunities for employment would be created through neighborhood and water-related retail activities, development of a hotel, and R&D, incubator, and office spaces. Neighborhood retail is proposed to service employees and visitors to the area, as well as adjoining residential areas.

In this alternative, the Gateway Area would become an extension of the adjoining Shaw's Cove Redevelopment Area that was redeveloped during the 1980's. The addition of office, incubator, and retail uses along Howard Street would complete a transition in use and function of this corridor, which began approximately 20 years ago. All alternatives that propose redevelopment of the Howard Street corridor would serve to implement City policy to renew this area.

The current neighborhood and its housing stock would cease to exist in its present configuration under this scenario. All of the 115 dwelling units in the area would be removed, of which 92 are currently occupied. (Fort Area: 81 dwelling units, 69 households. Gateway Area: 34 dwelling units, 23 households.) This would require the relocation of all the families in the area. In addition, 28 businesses may be displaced. All households and businesses displaced would receive assistance under the Connecticut Uniform Relocation Assistance Act and the Relocation Plan adopted as part of the MDP. Table 4.4-1 presents an estimate of displacement under this scenario.

4.4.3 Alternative No. 3 – Residential/Commercial

This alternative proposal seeks to create a balance between the current character of the neighborhood with new opportunities for the future. The area would maintain a significant amount of land in residential uses (±25.8 acres) while adding the state park (±16 acres) along with new retail and commercial uses. The retail uses would be geared toward employees, the tourist coming to the area, as well as the neighborhood residents. The office component along Howard Street would serve to link the area with the existing commercial and industrial uses found in the Gateway Area. In addition to the public amenities such as the state park and riverwalk, an area of open space (±3.5 acres) would be preserved in the center of the Fort Area.

The housing stock would be beneficially changed by this land use alternative. Forty-five dwelling units in the Fort Trumbull area would be removed, of which 40 are occupied. The plan does allow 36 existing dwelling units, of which 29 are currently occupied, to remain. Also, 29 households in 34 dwelling units would be displaced from the Gateway Area.

In total, 79 of the 115 dwelling units would be displaced under this scenario. This would result in the relocation of 63 households. In addition, 28 business may be displaced. All households and businesses displaced would receive assistance under the Connecticut Uniform Relocation Assistance Act and the Relocation Plan adopted as part of this MDP. Table 4.4-2 presents an estimate of displacement under this scenario.

TABLE 4.4-1
Estimate of Displacement –
Alternative 2 – Recreation/Tourism

Land Use Type	Current Property Use	Land Area (Ac.)	Total # of Dwelling Units	# of Dwelling Units to be Demolished	Total # of Households	# of Households to be Displaced	# of Businesses to be Displaced
State Park, Navy & Coast Guard Facilities	Fort Trumbull	30.0	36	36	29	29	1
Columbia Cove Marina	Fishing Docks	0.0	0	0	0	0	0
Hotel	RR	3.2	0	0	0	0	0
Recreation Center	RR	1.5	0	0	0	0	1
Museum	Res/Comm	7.8	39	39	35	35	8
Office (Existing)	Comm	2.2	0	0	0	0	3
Office/Incubator	Res/Comm	5.0	17	17	8	8	7
R&D/Office	Vacant/Industrial	1.3	1	1	0	0	3
Retail	Res/Comm	3.0	17	17	15	15	2
Water Related Commercial	Res/Comm	2.5	5	5	5	5	2
Waterfront Commercial	RR/Comm	2.1	0	0	0	0	1
WWTP	WWTP	10.5	0	0	0	0	0
		69.1	**115**	**115**	**92**	**92**	**28**

TABLE 4.4-2
Estimate of Displacement –
Alternative 3 – Residential/Commercial

Land Use Type	Current Property Use	Land Area (Ac.)	Total # of Dwelling Units	# of Dwelling Units to be Demolished	Total # of Households	# of Households to be Displaced	# of Businesses to be Displaced
State Park, Navy & Coast Guard Facilities	Fort Trumbull	16.0	0	0	0	0	0
Columbia Cove Marina	Fishing Docks	0.0	0	0	0	0	1
Open Space	Res/Comm	3.5	12	12	12	12	4
Residential Mid-Range	Res/Comm	16.5	63	27	52	23	5
Residential High-End	Fort Trumbull	6.4	0	0	0	0	0
Office (Existing)	Comm	2.2	4	4	0	0	3
Office/Incubator	Res/Comm	2.1	0	0	3	3	4
R&D/Office	Vacant/Industrial	1.3	1	1	0	0	3
Retail	Res/Comm	3.0	17	17	15	15	2
Water Related Commercial	Res/Comm	2.5	5	5	5	5	2
Waterfront Commercial	RR/Comm	4.3	0	0	0	0	1
WWTP	WWTP	10.5	0	0	0	0	0
Residential	Res/Comm	2.9	13	13	5	5	3
		71.2	**115**	**79**	**92**	**63**	**28**

With this alternative, there would be new residential uses created in the Gateway Area. Twenty dwelling units would be built, resulting in a net loss of 14 dwelling units. Furthermore, there would be 115 mid-density dwelling units in the area (36 preserved plus 79 newly constructed) and 160 high-density dwelling units at the completion of the project. This would result in 275 units in the area compared to the 81 that currently exist.

4.4.4 Alternative No. 4 – Business Campus

This alternative commits most of the developable area to office, incubator, and campus use. A hotel/conference center on 7.5 acres supports the office function. The Gateway Area along Howard Street would accommodate office/incubator use on the eastern side, much of which is an existing building, and residential and neighborhood retail use on the western side. This alternative brings residential use to Howard Street, which currently is predominately non-residential.

The current neighborhood and all of its housing stock except eight dwelling units would cease to exist in its current configuration under this scenario. Of the 115 dwelling units in the area, 107 would be removed, of which 86 are currently occupied. (Fort Area: 81 dwelling units removed, 69 households. Gateway Area: 26 dwelling units removed, 16 households.) This would require the relocation of 85 households from the area. There would be 22 new dwelling units created under this alternative for a net loss of 85 dwelling units. In addition, 28 businesses may be displaced. All households and businesses displaced would receive assistance under the Connecticut Uniform Relocation Assistance Act and the Relocation Plan adopted as

part of this MDP. Table 4.4-3 presents an estimate of displacement under this scenario.

4.4.5 Alternative No. 5 – Mixed Use 1

The addition of a hotel/conference center, an athletic club/field, the Fort Trumbull State Park, and water-related commercial activities in this alternative seeks to expand and improve the current residential/commercial character of the neighborhood, creating a truly mixed land use environment. This is accomplished by expanding the office/incubator uses in the Gateway Area, changing the location of some of the residential uses, while keeping their number constant, and providing residents with opportunities for recreation. As with the other alternatives, the creation of the state park and riverwalk would serve to balance the built environment with open space and natural settings.

TABLE 4.4-3
Estimate of Displacement –
Alternative 4 – Business Campus

Land Use Type	Current Property Use	Land Area (Ac.)	Total # of Dwelling Units	# of Dwelling Units to be Demolished	Total # of Households	# of Households to be Displaced	# of Businesses to be Displaced
State Park, Navy & Coast Guard Facilities	Fort Trumbull	16.0	0	0	0	0	0
Columbia Cove Marina	Fishing Docks	0.0	0	0	0	0	1
Hotel/Conference Center	Fort Trumbull/RR	7.5	0	0	0	0	0
Residential	Res/Comm	3.1	14	14	11	11	3
Office (Existing)	Res/Comm	2.2	0	0	0	0	3
Office/Incubator	Res/Comm	22.1	79	79	67	67	13
R&D/Office	Vacant/Industrial	1.3	1	1	0	0	3
Retail	Res/Comm	1.8	8	8	2	2	1
Water Related Commercial	Res/Comm	2.5	5	5	5	5	2
Waterfront Commercial	RR/Comm	2.1	0	0	0	0	1
WWTP	WWTP	10.5	0	0	0	0	0
Residential (Existing)	Residential	0.8	8	0	7	0	1
		69.9	**115**	**107**	**92**	**85**	**28**

The housing stock in the area would undergo no net change in number of dwelling units in this reuse option. The plan calls for 115 dwelling units, which is the same as the current number. Of these 115 dwelling units, 36 would be in existing structures, while the remaining 79 would be from new construction. This would mean the relocation of 63 households. (Fort Area: 45 dwelling units removed, 40 households. Gateway Area: 34 dwelling units removed, 23 households.) Additionally, there are 28 businesses in the area that may require relocation. All households and businesses displaced would receive assistance under the Connecticut Uniform Relocation Assistance Act and the Relocation Plan adopted as part of this MDP. Table 4.4-4 presents an estimate of displacement under this scenario.

4.4.6 Alternative No. 6 – Mixed Use 2

The current neighborhood and its housing stock would cease to exist in its present configuration under this scenario. All of the 115 dwelling units in the area would be removed, of which 92 are currently occupied. (Fort Area: 81 dwelling units, 69 households. Gateway Area: 34 dwelling units, 23 households.) This would require the relocation of all the families in the area. In addition, 28 businesses may be displaced. All households and businesses displaced would receive assistance under the Connecticut Uniform Relocation Assistance Act and the Relocation Plan adopted as part of this MDP. The level of displacement under this alternative would the same as Alternative 2 as presented in Table 4.4-1.

TABLE 4.4-4
Estimate of Displacement –
Alternative 5 – Mixed Use 1

Land Use Type	Current Property Use	Land Area (Ac.)	Total # of Dwelling Units	# of Dwelling Units to be Demolished	Total # of Households	# of Households to be Displaced	# of Businesses to be Displaced
State Park, Navy & Coast Guard Facilities	Fort Trumbull	16.0	0	0	0	0	0
Columbia Cove Marina	Fishing Dock	0.0	0	0	0	0	0
Hotel/Conference Center	Fort Trumbull/RR	7.5	0	0	0	0	1
Athletic Club/Field	Res/Comm	3.5	12	12	12	12	4
Residential Mid-Range	Res/Comm	16.5	63	27	52	23	5
Office (Existing)	Res/Comm	2.2	0	0	0	0	3
Office/Incubator	Res/Comm	8.0	34	34	23	23	9
R&D/Office	Vacant/Industrial	1.3	1	1	0	0	3
Water Related Commercial	RR/Comm	2.5	5	5	5	5	2
Waterfront Commercial	WWTP	2.1	0	0	0	0	1
WWTP	Residential	10.5	0	0	0	0	0
		70.1	**115**	**79**	**92**	**63**	**28**

4.5 Community Facilities and Services Impacts

4.5.1 Common Elements

Fire Protection – All of the land use alternatives are expected to have similar positive impacts on local fire and police services. The demolition of old, fire prone buildings is expected to reduce the potential for occurrence of an uncontrolled fire and enhance fire protection capabilities in the area. Construction of new buildings would be completed in accordance with current fire code and would employ sprinkler systems to provide additional fire protection capabilities. The improvement of public water service in the area will also allow for the installation of additional fire hydrants. Additionally, redevelopment activities can be designed to provide emergency vehicle access to the buildings, thus improving accessibility over existing conditions. Proposed roadway improvements would provide better emergency access to the area in the event of a fire. (Personal communication, 10/6/98, Chief Samuels). As part of the NUWC closure, the City of New London acquired a Navy fire truck, thus increasing its equipment inventory.

Police Protection – Current land uses in the MDP area limits the volume of people, minimizing the need for police patrol. This is particularly evident at the NUWC property which is currently secured by Navy staff. All of the alternatives would result in increased use of the Fort Trumbull area, including NUWC, thus requiring more frequent police patrol of the area. Proposed alternatives which minimize open public access are viewed as most favorable for police protection. (Personal communication, 10/6/98, Deputy Chief Gavitt).

Health Care – Health care facilities are not anticipated to be measurably affected by the implementation of any of the alternatives.

Recreation – The disposition of a portion of the NUWC property (±16 acres) to the Department of Environmental Protection would result in a positive impact to parks and recreation. The state-owned and operated park would complement the local park network and provide additional waterfront access to the New London residents and to visitors from outside the New London area This new amenity would be afforded without any additional maintenance or staffing burden on the city, as these responsibilities would rest on the Department of Environmental Protection.

4.5.2 Alternative No. 1 – No Action

Since development at the NUWC property associated with this alternative does not include a residential component, no impact on education or the need for additional educational facilities is anticipated. A positive impact on education is anticipated as a result of the Fort Trumbull State Park due to the educational aspect of the historic fort and associated park.

Emergency services (i.e., police, fire, ambulance, etc.) are not expected to be negatively impacted by this alternative. A far less intense land use would result in comparison to the fully operational NUWC facility at this site.

As indicated, the positive impacts of locating a state park in this area would be experienced under this alternative.

4.5.3 Alternative No. 2 – Recreation/Tourism

A component of the Recreation/Tourism alternative includes cultural and museum recreation, with the potential for a 50,000 to 70,000 square foot museum facility. This, in combination with the educational

aspect of the proposed Fort Trumbull State Park, would have a positive impact on education in the community. No need for additional educational facilities or impact on New London's school system is anticipated in association with this alternative.

A positive benefit from the proposed Fort Trumbull State Park would be similar to that described in Alternative 1, except that the park would be expanded from 16 acres to approximately 30 acres. The construction of a proposed riverwalk along the waterfront would also complement existing and planned recreational facilities in New London.

Additional recreational amenities are offered in this alternative, including a cultural/museum active recreational use, a 25,000 square foot recreational center, a possible marina use, and an 80-room hotel with views of the waterfront. These features are expected to result in a positive impact to parks and recreation, since they would replace non-recreational land uses.

4.5.4 Alternative No. 3 – Residential/Commercial

This alternative allocates approximately 23 acres of residential use east of the railroad in the Fort Area and at the NUWC property, as well as almost three acres of residential use in the Gateway Area. This would result in approximately 295 dwelling units in the area. Existing residential use in the project area occupies approximately 45.2 acres, with a resultant 126 dwelling units (as of August 1998). Therefore, the additional number of dwelling units under this alternative would be on the order of 169.

Table 4.5-1 illustrates the demographics of New London's school aged population under existing and proposed conditions in the MDP area under this alternative.

TABLE 4.5-1
Demographics Concerning New London's School Aged Population

	1990 Census Data	Estimated Existing MDP Area Conditions	Alternative No. 3 Projected Conditions	Anticipated Change from Existing to Proposed Conditions
Population	28,540	335	785	+450
Number of Dwelling Units[1]	10,712	126	295	+169
Population Density[2]	2.66	2.66	2.66	0
Population (% or number) Age 5 through 10 Years[3]	6.5%	22	51	+29
Population (% or number) Ages 11 through 13 Years[3]	2.9%	10	23	+13
Population (% or number) Ages 14 through 17 Years	3.5%	12	27	+15

[1] Assumed one household per dwelling unit.
[2] MDP area population assumed to be the same as city-wide population density.
[3] Of the 594 10 and 11 year old students, one-half assumed to be age 10 and one-half assumed to be age 11.
Note: Information current as of August 1998

It is assumed that elementary school aged children are ages five through 10 years; middle school aged children are ages 11 through 13; and high school aged students are ages 14 through 17. As a result of the proposed conditions, there is the potential for an additional 57 children in the New London public school system (29 in elementary school, 13 in middle school, and 15 in high school). These estimates are somewhat conservative in that a fraction of school aged students attend non-public schools or require additional assistance through a special education program offered at the Little Red Schoolhouse. Additionally, it is possible that some of the residential population would be relocating from within the city and would, therefore, simply be a redistribution of school aged children.

At the present time, most of the New London schools operate at enrollment levels below the rated capacity of the buildings. The majority of the MDP area lies within the Harbor School elementary education district. This facility currently (1998/99 school year) has an excess capacity of about 100 students. The Bennie Dover Jackson middle school has additional capacity for approximately 50 students, and New London High School has capacity for an additional 75 students.

Based on the current enrollment and maximum capacities of educational institutions in New London, there will be no negative impact on these facilities if this alternative is implemented.

The positive benefits from the proposed Fort Trumbull State Park and riverwalk would be the same as described in previous alternatives. Additionally, 3.5 acres of open space are proposed under this alternative in the Fort Area. One function of this open space is expected to be passive recreation. This feature is expected to result in a positive impact to parks and recreation, since it would replace non-recreational land uses.

4.5.5 Alternative No. 4 – Business Campus

This alternative allocates approximately 4.1 acres of residential use west of the railroad in the Gateway Area. This would result in approximately 30 dwelling units in the area. Existing residential use in the project area occupies approximately 45.2 acres, with a resultant 126 dwelling units (as of August 1998). Therefore, there would be an overall decrease in residential use, with an associated decrease in school aged children in the MDP area. Therefore, no negative impacts are anticipated with respect to educational facility needs under this alternative.

The positive benefits from the proposed Fort Trumbull State Park and riverwalk would be the same as described in previous alternatives. Additional recreational amenities are also offered in this alternative, including a possible marina use and a 200-room hotel/conference center with views of the waterfront. These features are expected to result in a positive impact to parks and recreation since they would replace non-recreational land uses.

4.5.6 Alternative No. 5 – Mixed Use 1

This alternative allocates approximately 16.5 acres of residential use east of the railroad in the Fort Area and NUWC property with a resultant 115 dwelling units. Existing residential use in the project area occupies approximately 45.2 acres, with a resultant 126 dwelling units (August 1998). Therefore, there would be an overall decrease in residential use, with an associated decrease in school aged children in the MDP area. Therefore, no negative impacts are anticipated with respect to educational facility needs under this alternative.

The positive benefits from the proposed Fort Trumbull State Park and riverwalk would be the same as described in previous alternatives. Additional recreational amenities are also offered in this alternative, including a 25,000 athletic club/field, possible marina use, and a 200-room hotel/conference center with views of the waterfront. These features are expected to result in a positive impact to parks and recreation since they would replace non-recreational land uses.

4.5.7 Alternative No. 6 – Mixed Use 2

The impacts of Alternative 6 are identical to that of Alternative 5, except that additional open/recreational space and opportunities are provided in Alternative 6.

4.6 Aesthetic/Visual Resource Impacts

The proposed municipal development of the Fort Trumbull area will alter the appearance of the neighborhood when viewed from both interior and exterior locations. The primary viewsheds that look out over this area include observers viewing south over Shaw's Cove, observers viewing the site from or across the Thames River (including small craft and ferry boats), the view from Pequot Avenue and the adjacent Pfizer site, and limited views from the Gateway Area. The railroad embankment limits external views of the Fort Area from the west.

The aesthetic quality of a landscape is somewhat subjective, depending upon the judgment and experiences of the viewer. Typical elements include mass, texture, color, height and width proportions, and the presence of natural versus common or unusual cultural features.

4.6.1 Alternative No. 1 – No Action

The visual appearance of the site would have moderate change, even if no action were to be taken under the MDP process. The private sale of NUWC buildings could lead to alteration of that site, and the state park would still proceed to clear older wood frame structures from the southern half of the NUWC property. This would improve the view from the Fort Area.

There would be no significant changes anticipated in the Gateway and Fort Areas.

4.6.2 Alternative No. 2 – Recreation/Tourism

The redevelopment of the Gateway and Lower Pequot Avenue Area would noticeably alter the appearance of these areas, with removal of existing buildings and construction of new ones. The exact composition of size, shape, and color has not been established at this time.

The Fort Area west of Smith Street would have a totally new look, intended to complement a new cultural center/museum and recreational center theme. This would likely involve new low-rise buildings with pedestrian walks, terraces, and parking lots. Many would consider this an improvement over existing conditions.

The proposed Columbia Cove area and adjacent hotel site would be designed to complement the waterfront and be visible across the river and Shaw's Cove. A well balanced waterfront design with public access would be attractive.

The focal point of Alternative 2 is an enlarged Fort Trumbull State Park, including removal of additional buildings in its northern area east of Smith Street. This would open up views of this congested site from

the river, and introduce natural elements into the viewshed.

4.6.3 Alternative No. 3 – Residential/Commercial

New residential units would be constructed in the underutilized area along Howard Street and would need to complement the scale of the neighborhood. They would serve as a transition to office uses east of Howard Street. Generous front setbacks would be desirable between these separate uses. Similar colors and materials would also be desirable. However, it would be difficult to blend such diverse uses into a comfortable neighborhood. Medium and high density residential units, raised on fill or piers in flood prone areas, would be constructed in the Fort Area on both sides of the present Smith Street. They are visible from the river and Shaw's Cove and would detract from the waterfront vista. In contrast, the proposed Columbia Cove area is more likely to be of visual interest, as would be the state park.

The proposed open space between Goshen Street and the railroad is of internal interest and could be landscaped to form an attractive gateway beyond the Walbach Street bridge and buffer the residential area.

4.6.4 Alternative No. 4 – Business Campus

The proposed Gateway Area mix of residential retail and office would be similar to Alternative 3, with minor spatial orientation changes. The core of this alternate is a large area of office and incubator business space in a campus type of layout. This offers the opportunity for an integrated visual design that could include courtyards, streetscape features, and mini parks. While not a distant viewshed attraction, it could complement the marina. Having a band of

green along the water and near the hotel would be a plus.

4.6.5 Alternative No. 5 – Mixed Use 1

The proposed office and office/incubator areas in the Gateway Area has enough mass to create its own neighborhood character and needs only a suitable buffer or transition on the west side. The internal appearance and use would be self-defined.

The proposed hotel conference center and Columbia Cove area, as per previous alternatives, can be attractive waterfront features. The large residential area on both sides of Smith Street is a difficult backdrop to the marina and state park, particularly since flood management regulations would require higher elevations of these buildings. This could appear, from the water, as a cluttered hillside of little boxes.

4.6.6 Alternative No. 6 – Mixed Use 2

This alternate is similar to Alternative 5, but with a reorientation of space in the Fort Area and in the northern portion of the NUWC property. A 12-acre passive recreation open space/athletic center would be provided along the river and the floodplain, with the Alternative 5 residential areas shifted west away from the water. This helps to hide the residential area into the hollow between Smith Street and the railroad embankment, and opens up the greenway along the river. It would complement the waterfront and hotel sites.

4.7 Public Utilities and Services Impacts

4.7.1 Common Elements

Under the various land use alternatives, the MDP area would be partitioned into several different reuse parcels to be utilized by different tenants. There are various infrastructure improvements that are common to all of the land use alternatives. The common elements are summarized in the ensuing discussion. Elements that are specific to each alternative are described in subsequent sections.

Many of the utility systems that currently serve NUWC base, including electric, water, steam and sewage, are contiguous in nature. There will be a need to ensure that all parcels/buildings have use of all utilities during and following any site partitioning and construction.

Water System

The existing water distribution system east of the railroad right-of-way is currently in poor condition and is inadequate to provide the necessary fire flows for the proposed development uses. Fire flow tests performed to date have verified this. Computer simulations performed by the Navy have indicated that the flow capacity in the water mains is well below the normal capacity of the six-inch and eight-inch pipe sizes indicated on the record plans. This condition is probably due to advanced tuberculation of the pipe walls and inoperable gate valves.

It is anticipated that under Alternatives 2 through 6 the layout of the water distribution system infrastructure will be modified to accommodate a new street alignment and to meet needed fire flow demands for the development.

It is anticipated that the state park will be on a separate private water system which will be interconnected with the City of New London water system at several master meters at the perimeter of the park. The U.S. Coast Guard and the Naval facilities will be provided water from the New London system via easements across the state park or in a relocated street.

Water demands associated with all of the alternatives are anticipated to be less than historic demands when NUWC was fully operational. Water usage at the NUWC facility was estimated in March of 1987 by the Naval Facilities Engineering Command, Northern Division in a study entitled "Utilities Systems Assessment." At that time, all meters supplying water to the NUWC facility were found to be inoperative, as well as 23 of 26 individual building meters. Water demand was estimated based on population of the buildings multiplied by 30.75 gallons per capita per day usage. The daily flow was estimated at 43,671 gallons.

Existing water demands off the NUWC site but within the MDP area is estimated at 75,200 gpd. If the estimated NUWC use of 43,671 gpd is added to this, a rough estimate of the historic usage is 119,000.

Sanitary Sewer System

There is currently adequate capacity in the existing sanitary sewer system to collect the existing and projected sewage flows (see specific program elements). It is anticipated that all discharges to the sewers will be domestic waste and that any industrial waste generated will be minimal in volume or be contained in a closed loop system and treated internally. Depending on the final configuration of the development, new

sanitary sewers may need to be constructed along any relocated road or driveway alignments.

Storm Drainage System

Any significant introduction of constituents such as nutrients, toxics, heavy metals or pathogens, or significant alterations of the physical and chemical characteristics thereby degrading water quality would be considered an adverse impact to the estuarine waters of the Thames River. Hence, the use of advanced stormwater management associated development in the Fort Trumbull area will be necessary to protect coastal water quality and marine life.

If sufficient controls are not utilized, development and construction have the potential to alter stormwater quantities and quality. These alterations can be due to changes in vegetation, impervious cover (roads, parking lots, buildings), reduced infiltration, diversions, and modified channels or storm drains. Potential impacts include:

- higher peak flow rates;
- larger runoff volumes;
- increased flow velocities;
- soil erosion;
- water quality degradation; and
- sediment deposition.

The three fundamental storm drainage needs for this project are to (1) prevent nuisance flood problems in developed areas; (2) minimize downstream impacts; and (3) treat stormwater prior to discharge. Specific concepts are to control pollutants at their sources, plan for both frequent and rare storm events, avoid unnecessary impervious cover, and use multiple

treatment practices to reduce pollution loadings and concentrations.

It is anticipated that some existing storm drains may be cleaned and reused, while new drainage facilities will be required where new roads are constructed or older roads are rebuilt. Of special interest is providing adequate drainage of the low elevation points at railroad underpasses that tend to pond runoff during storm events which are coincident with high tides. All new storm drain discharge points will avoid existing or potential wetlands and have appropriate water quality controls.

Under all land use alternatives, the existing storm drainage system will need to be modified to accommodate any new roadway alignments and to correct deficiencies in the existing system. All of the storm drainage systems will incorporate stormwater quality renovation elements such as inlet chambers (Vortechnics, Stormsceptors, or similar equipment) and/or infiltration systems.

DEP general stormwater permits for construction activities in tidal areas specify post construction management requirements, including retention (i.e. infiltration) of the first inch of runoff from the site. If retention not possible, detention may be required. The general permit also requires 80% total suspended solids removal and velocity dissipation. These elements will be factored into the Municipal Development Planning process and project design.

Each of the alternatives will change the amount of impervious coverage due to the changes in land use. Table 4.7-1 presents the change in coverage for the six alternatives. The estimates are given in ranges since it is not possible to determine the exact amount until a more detailed design is developed.

TABLE 4.7-1
Estimated Changes in Impervious Coverage

Alternative	Existing Impervious Coverage	Proposed Impervious Coverage	Change in Impervious Coverage
1 – No Action	45%	40%-45%	0%-5% Reduction
2 – Recreation/ Tourism	45%	35%-40%	5%-10% Reduction
3 – Residential/ Commercial	45%	40%-45%	0%-5% Reduction
4 – Business Campus	45%	50%-60%	5%-15% Increase
5 – Mixed Use 1	45%	45%-55%	0%-10% Increase
6 – Mixed Use 2	45%	45%-55%	0%-10% Increase

Note: Numbers are approximate.

The changes range from a reduction of 5 to 10% under the Recreation/Tourism alternative to an increase of 5 to 15% under the Business Campus Alternative. The changes in the alternatives are largely due to the parking demand of each alternative. Conventional engineering design will be utilized to design the pipes for the storm sewer systems in each of the alternatives. The pipe sizes will be proportionally larger under the more intensive land uses.

Gas

Yankee Gas has adequate capacity to service the future development. Gas mains currently exist on most of the municipal streets in the vicinity of the project area. Some upgrading of the mains in the roadway may be required depending on the final configuration of development. Additional distribution facilities will need to be constructed on the land of the NUWC base, since a central steam plant previously heated it.

Energy Use and Conservation

There is no known data readily available on historic energy use in the MDP area and guidelines have not been prepared for future energy use. In general, it is anticipated that new buildings will be more energy efficient than the older existing buildings, and will need to conform to or exceed current standards.

High electrical-demand uses are not proposed under any of the identified land use alternatives. However, it is anticipated that individual users will take advantage of energy-saving measures and available incentives. Additionally, future development projects will be designed in accordance with applicable state and local building codes with respect to electrical components, lighting, and HVAC.

Telephone and Cable

The local telephone and cable utilities are required to extend capacity to serve developments if they are located on a public street. If it is desired to have facilities located underground in the roadway, the owner/developer is required to contribute to the cost. Extension of telephone service to private property would have to be completed by the owner/developer.

4.7.2 Alternative No. 1 – No Action

Under the No Action alternative, there will be a net reduction in utility demand from the historical usage due to a reduction in the intensity of development.

Water Supply

Potable water would continue to be obtained from the City of New London. Estimated water usage under

this alternative is 108,850 gallons per day (gpd). This is less than the estimated historic usage in the Fort Trumbull area. Flow meters that are currently installed to monitor water usage are inoperable and would have to be repaired or replaced in order to monitor the amount of water consumed by future tenants and uses. The State of Connecticut and other future occupants will need to upgrade the water distribution system to accommodate the needed fire flows. Table 4.7-2 presents estimates of domestic water demand for this alternative.

TABLE 4.7-2
Estimated Domestic Water Usage –
Alternative 1 – No Action

Land Use/Type	Estimated Number of Employees	Estimated Domestic Water Usage (gpd/unit)	Estimated Sewage/ Domestic Water Usage (gpd)
Residential	128 units * 3.5 persons/unit=448	75 gpd/person	33,600 gpd
Commercial	514,882 SF/250 SF/employee = 2060 employees	20 gpd/person	41,200 gpd
Industrial	Included in Commercial Usage		
Business Park	380,000 SF ÷ 250 SF/employee = 1520	20 gpd/employee	20 gpd * 1520 employees = 30,400 gpd
WWTP	20 estimated	20 gpd/employee	400 gpd
State Park	50	20 gpd/employee 5 gpd/visitor	(20 gpd * 50 employee) + 450 visitors * 5 gpd) = 3,250 gpd
TOTAL			108,850 gpd

Note: Number of residential units and square footage as of August 1998.

Sanitary Sewage

Sewage discharge under this alternative would be below the historical rates at the NUWC facility and surrounding area. The existing sewer serving NUWC and would continue to serve the site and domestic sewage would continue to be treated at the regional WPCF. Meters would have to be installed at different discharge points of each parcel/building in order to monitor usage for billing purposes.

4.7.3 Alternative No. 2 – Recreation/Tourism

Water Supply

Potable water would continue to be obtained from the City of New London. Per capita water usage is estimated to be 20 gallons per day per employee and five gallons per visitor. Estimated water usage is between 41,890 and 43,990 gallons per day. This is less than both historic and existing estimated demands in the Fort Trumbull area. Flow meters that are currently installed to monitor water usage are inoperable and would have to be repaired and/or replaced in order to monitor the amount of water consumed by future tenants and uses. Table 4.7-3 presents estimates of domestic water demand for this alternative.

TABLE 4.7-3
Estimated Domestic Water Usage –
Alternative 2 – Recreation/Tourism

Land use/type	Estimated Employees	Estimated Domestic Water Usage (gallons per day/per unit)	Estimated Domestic Water Usage (gallons per day)
State Park	100	20 gpd/employee 5 gpd/visitor	(20 gpd*100 employees) + 900 visitors * 5 gpd) = 6,500 gpd
Columbia Cove Waterfront Commercial	Assume 2000 SF office 2000 SF ÷ 250 SF/ employee = 8	20 gpd/slip	1,600 - 2,000 gpd
Hotel	Assume 5,000 SF office 5,000 SF ÷ 250 SF/ employee = 20	20 gpd/employee 75 gpd/room	(20 gpd*20 employee) + 80 rooms *75 gpd) = 6,400 gpd
Recreation Center	250 parking spaces x 2 visits/space/day	15 gal/visit	7,500 gpd
Museum	=10 estimated	20 gpd/employee 5 gpd/visitor	(20 gpd * 10 employee) + 250-350 visitors * 5 gpd) = 1,450-1,950 gpd
Office (existing)	50,500 ÷ 250 SF/employee = 202	20 gpd/employee	4,040 gpd
Office/ Incubator	250 SF/ employee = 320	20 gpd/employee	6,400 gpd
R&D/Office	250 SF/ employee = 20	20 gpd/employee	400 gpd

Retail	20,000 ÷ 650 SF/ employee = 30	0.10 gpd/sf of gross area	2,000 gpd
Water-related Commercial	250 SF/ employee = 100-120	20 gpd/employee	2,000-2,400 gpd
Waterfront Commercial	250 SF/employee = =160-200	20 gpd/employee	3,200-4,000 gpd
WWTP	20 estimated	20 gpd/employee	400 gpd
TOTAL			41,890-43,990 gpd

Note: Number of residential units and square footage as of August 1998.

Sanitary Sewage

Sewage flow from the existing NUWC complex is not metered. Typically, sewage flow is equal to about 80% of the potable water used at most facilities.

The existing sanitary sewer serving NUWC would continue to serve the site and the sewage would continue to be treated at the regional WPCF. The daily sewage flow is estimated between 33,500 and 35,200 gallons. Therefore, no upgrading or rerouting of current sewer lines would be necessary. However, for future billing purposes, meters may have to be installed at different discharge points of each parcel/building in order to monitor usage.

Stormwater Systems

The existing surface water drainage system at NUWC is controlled by a series of catch basins and underground piping. Over 20 buildings would be demolished to create the park and the new parking spaces

which would be required. Additions and relocations to the existing drainage system would be implemented to accommodate any new drainage changes that may result from the activity.

Stormwater associated with new development would be subject to the DEP permitting programs. Stormwater pollution prevention plans would need to be prepared prior to formal approval for permit coverage. The permit would need to include applicable components of the sediment and erosion and control site plan standards, site permits, and stormwater management site plans.

Steam

High-pressure steam is currently generated in the steam plant (Building 99) and distributed throughout the site via a contiguous system. It is anticipated that Building 99 would no longer be used for steam generation.

Electrical

Electrical service would continue to be provided by Connecticut Light and Power (CL&P). The maximum historical electrical demand at NUWC was 4243 kV or 4714 KVA. During this time period the incoming feeder was loaded to 88% of its rated capacity. Additionally, there is only one electrical feed that is metered for one owner. Assuming multiple users of electricity under this alternative, sub-metering of the current electrical system or the installation of additional electrical feeds would be required. Given the potential for different and varied electrical needs of future tenants, specific future amounts of electrical consumption cannot be predicted at this time. However, given comparable levels of usage between the

alternative build-out and the historical demand at NUWC, differences in electrical demand would not be significant.

4.7.4 Alternative No. 3 – Residential/Commercial Water Supply

Potable water would continue to be obtained from the City of New London. Per capita water usage is estimated to be 75 gallons per day per resident. Estimated water usage under this alternative is between 105,230 and 106,830 gpd. This is less than historic usage in the Fort Trumbull area, and only slightly greater than existing estimated demands. Flow meters that are currently in place to monitor water usage are inoperable and would have to be repaired and or replaced in order to monitor the amount of water consumed by future tenants and uses. Table 4.7-4 presents estimates of domestic water demand for this alternative.

TABLE 4.7-4
Estimated Domestic Water Usage –
Alternative 3 – Residential/Commercial

Land Use/Type	Estimated Employees	Estimated Domestic Water Usage (gpd/unit)	Estimated Domestic Water Usage (gpd)
State Park	50	20 gpd/ employee 5 gpd/visitor	(20 gpd * 100 employee) + (900 visitors * 5 gpd) = 6,500 gpd
Columbia Cove Area	Assume 2000 SF office 20,000 SF ÷ 250 SF/ employee = 8	20 gpd	1,600-2,000 gpd
Open Space	0.09 employee/ acre x 3.5 ac = 0		
Residential Mid-Density	135 SFA/SFD x 3.5 person/unit	75 gpd/person	35,440 gpd
Residential High-Density	160 TH/APT x 3.5 person/unit	75 gpd/person	42,000 gpd
Office (existing)	50,500 ÷ 250 SF/ employee = 202	20 gpd/ employee	4,040 gpd
Office/Incubator	250 SF/ employee = 120	20 gpd/ employee	2,400 gpd
R&D/Office	250 SF/ employee = 20	20 gpd/ employee	400 gpd
Retail	20,000 ÷ 650 SF/ employee = 31	0.10 gpd/sf of gross area	2,000 gpd
Water-related Commercial	250 SF/ employee = 100-120	20 gpd/ employee	2,000-2,400 gpd
Waterfront Commercial	250 SF/ employee = 80-100	20 gpd/ employee	3,200-4000 gpd
WWTP	20 estimated	20 gpd/ employee	400 gpd

Residential	2.9 ac x 7 dwellings/ac x 3.5 persons/unit = 70 persons	75 gpd/person	5,250 gpd
TOTAL			105,230-106,830 gpd

Note: Number of residential units and square footage as of August 1998.

Sanitary Sewage

Sanitary sewage generation would be between 84,200 and 85,500 gallons per day. However, for future billing purposes, meters would have to be installed at different discharge points of each parcel/building in order to monitor usage.

Stormwater Systems

The existing surface water drainage system at NUWC is controlled by a series of catch basins and underground piping. As over 20 buildings would be demolished and new parking spaces would be provided, additions and relocations to the existing drainage system would be implemented to accommodate stormwater discharges. Any construction activities associated with the development of this alternative would be subject to DEP permitting programs.

Steam

It is anticipated that Building 99 would no longer be utilized for steam generation.

Electricity

Specific electrical demand cannot be estimated at this time. However, sub-metering of the current electrical system, or the installation of additional electrical feeds, would be required due to multiple users of electricity.

4.7.5 Alternative No. 4 – Business Campus Water Supply

Potable water would continue to be obtained from the City of New London. Per capita water usage is estimated to be 20 gallons per day per employee. Estimated water usage is estimated between 67,565 and 71,665 gallons per day. This is less than historic and estimated current water usage in the Fort Trumbull area. Additionally, flow meters that are currently installed to monitor water usage are inoperable and would have to be repaired and/or replaced in order to monitor the amount of water consumed by future tenants and. uses. Table 4.7-5 presents estimates of domestic water demand for this alternative.

Sanitary Sewage

Sanitary sewage generation is estimated to be between 54,100 and 57,300 gallons per day. However, for future billing purposes, meters may have to be installed at different discharge points of each parcel/building in order to monitor usage.

TABLE 4.7-5
Estimated Domestic Water Usage –
Alternative 4 – Business Campus

Land Use/Type	Estimated Employees	Estimated Domestic Water Usage (gallons per day/per unit)	Estimated Domestic Water Usage (gallons per day)
State Park	50	20 gpd/employee 5 gpd/visitor	(20 gpd * 50 employee) + 450 visitors * 5 gpd) = 3,250 gpd
Columbia Cove Area	Assume 2,000 SF office 2,000 SF ÷ 250 S/F employee = 8	20 gpd/slip	1,600-2,000 gpd
Hotel	200 rooms	50 gpd/unit	10,000 gpd
Residential	30 SFA/SFD x 3.5 persons/unit	75 gpd/person	7,875 gpd
Office (existing)	50,500 SF/250 SF/ employee = 202	20 gpd/unit	4,040 gpd
Office Incubator	380,000-405,000/250 SF/employee = 1,520-1,620 employee	20 gpd/ employee	30,400-32,400 gpd
R&D/Office	5,000/250 = 20	20 gpd/ employee	400 gpd
Retail	250 SF/ employee = 60	20 gpd/ employee	1,200 gpd
Water-related Commercial	25,000-30,000 ÷ 650 SF/ employee = 38-46	.10 gpd/sf of gross area	2,500-3,000 gpd
Water front Commercial		20 gpd/ employee	1,600-2,000 gpd

WWTP	160 dwellings/ac	20 gpd/ employee	3,200-4,000 gpd
Residential (existing)	0.8 ac x 7 dwellings/ac x 3.5 persons/unit = 70 persons	75 gpd/person	1,500 gpd
TOTAL			67,565-71,665 gpd

Note: Number of residential units and square footage as of August 1998.

Stormwater Systems

Additions and relocations to the existing drainage system would be implemented to accommodate any new drainage changes that may result from the activity. As is the case with the Residential/Commercial alternative, any construction activities associated with the development of the Business alternative would be subject to the NPDES permit program.

Steam

Building 99 would be located within the Office/Incubator component of this reuse alternative. It is anticipated that Building 99 could provide steam to other non-military-retained buildings. However, submetering at points of use would have to be implemented in order to monitor usage.

Electricity

Specific electrical demand cannot be estimated at this time. However, sub-metering of the current electrical system, or the installation of additional electrical feeds, would be required due to multiple users of electricity.

4.7.6 Alternative No. 5 – Mixed Use 1

Water Supply

Potable water would continue to be obtained from the City of New London. Estimated water usage under this alternative would be between 70,660 and 71,860 gallons per day. This is less than historic usage in the Fort Trumbull area and approximately equal to existing estimated usage in the area. Table 4.7-6 presents estimates of domestic water demand for this alternative.

Sanitary Sewage

Sanitary sewage generation is estimated to be between 56,500 and 57,500 gallons per day. However, for future billing purposes, meters would have to be installed at different discharge points of each parcel/building in order to monitor usage.

Steam

It is anticipated that Building 99 would no longer be used for steam generation.

Electricity

As is the case with the other alternatives, specific electrical demand cannot be estimated at this time. However, sub-metering of the current system or the installation of additional electrical feeds would be required because multiple users of electricity are also anticipated.

TABLE 4.7-6
Estimated Domestic Water Usage –
Alternative 5 – Mixed Use 1

Land Use/Type	Estimated Employees or Units	Estimated Domestic Water Usage (gallons per day/per unit)	Estimated Domestic Water Usage (gallons per day)
State Park	50	20 gpd/ employee 5 gpd/visitor	(20 gpd * 50 employee) + 450 visitors * 5 gpd = 3,250 gpd
Columbia Cove Area	Assume 2,000 SF office 2,000 SF ÷ 250 SF/ employee = 8	20 gpd/slip	1,600-2,000 gpd
Hotel	Assume 10,000 SF office 10,000 SF ÷ 250 SF/ employee = 40	20 gpd/ employee 75 gpd/room	(20) gpd * 40 employee) + 200 rooms * 75 GPD) = 15,800 gpd
Athletic Club/Field	25,000 SF x 6 visitors/day/ 1,000 SF	15 gal/visitor	2,250 gpd
Residential Mid-Range	16.5 ac x 7 du/ac x 3.5 person/unit	75 gpd/person	30,320 gpd
Office (existing)	50,500 ÷ 250 SF/ employee = 202	20 gpd/ employee	4,040 gpd
R&D/Office	5,000SF/250SF/ employee = 20	20 gpd/ employee	400 gpd
Retail	10,000 SF/650 SF/employee = 15	0.10 gpd/SF of gross area	1,000 gpd
Water-related Commercial	250 SF/employee = 100-120	20 gpd/ employee	2,000-2,400 gpd
Waterfront Commercial	250 SF/employee = 80-100	20 gpd/ employee	1,600-2,000 gpd

WWTP	40 estimated	20 gpd/ employee	400 gpd
TOTAL			70,660-71,860 gpd

Note: Number of residential units and square footage as of August 1998.

4.7.7 Alternative No. 6 – Mixed Use 2 Water Supply

Potable water would continue to be obtained from the City of New London. Estimated water usage under this alternative would be between 74,410 and 75,610 gallons per day. This is less than historic usage in the Fort Trumbull area and approximately equal to existing demands. Table 4.7-7 presents estimates of domestic water demand for this alternative.

TABLE 4.7-7
Estimated Domestic Water Usage – Alternative 6 – Mixed Use 2

Land Use/Type	Estimated Employees or Units	Estimated Domestic Water Usage (gallons per day/per unit)	Estimated Domestic Water Usage (gallons per day)
State Park	50	20 gpd/ employee 5 gpd/visitor	(20 gpd * 50 employee) + 450 visitors * 5 gpd = 3,250 gpd
Columbia Cove Area	Assume 2,000 SF office 2,000 SF ÷ 250 SF/ employee = 8	20 gpd/slip	1,600-2,000 gpd
Hotel	Assume 10,000 SF office 10,000 SF ÷ 250 SF/ employee = 40	20 gpd/ employee 75 gpd/room	(20) gpd * 40 employee) + 250 rooms * 75 GPD) = 19,550 gpd

Athletic Club/Field	25,000 SF x 6 visits/day/ 1,000 SF	15 gal/visitor	2,250 gpd
Residential Mid-Range	16.5 ac x 7 du/ac x 3.5 person/ unit	75 gpd/person	30,320 gpd
Office (existing)	50,500 ÷ 250 SF/employee = 202	20 gpd/ employee	4,040 gpd
R&D/Office	5,000SF/250SF/ employee = 20	20 gpd/ employee	400 gpd
Retail	10,000 SF/650 SF/employee = 15	0.10 gpd/SF of gross area	1,000 gpd
Water-related Commercial	250 SF/ employee = 100-120	20 gpd/ employee	2,000-2,400 gpd
Waterfront Commercial	250 SF/ employee = 80-100	20 gpd/ employee	1,600-2,000 gpd
WWTP	40 estimated	20 gpd/ employee	400 gpd
TOTAL			74,410-75,610 gpd

Note: Number of residential units and square footage as of August 1998.

Sanitary Sewage

Sanitary sewage generation is estimated to be between 59,500 and 60,500 gallons per day. However, for future billing purposes, meters would have to be installed at different discharge points of each parcel/building in order to monitor usage.

Steam and Electricity

Impacts to steam generation and electricity for Alternative 6 are the same as those for Alternative 5.

4.8 Cultural Resources Impacts

Future development in the Fort Trumbull MDP area will include ground disturbances from machine access, demolition of some existing structures, construction of new buildings, utility installation, and land scaping activities that are potentially damaging to archaeological resources. Alternative development plans will have varying affects on different parts of the project area, and possibly associated archaeological sites. Archeological reconnaissance surveys (Phase 1b) are planned in all areas that have been identified in the archaeological assessment surveys (Reeve, Keegan and Keegan 1998; TAMS 1998) as moderately and highly sensitive for prehistoric or historic period archaeological sites when future ground disturbances are anticipated.

Archeological investigations should not prevent future development of the project area. Representatives of the Connecticut Historical Commission (CHC) have indicated that Phase Ib, and, if necessary, Phase 2 and Phase 3 level investigation, can proceed over the long term as development plans and construction schedules are adopted. CHC has further indicated a willingness to work closely with all parties to assure protection of significant historic resources and to assure the success of New London revitalization.

In any of the alternatives, structures on the NWUC property would be impacted, including those in and out of the state park portion of the site. Although demolition of currently registered buildings is not contemplated, it is likely that some or all of the other

structures on this property would be destroyed in the implementation of various alternatives. Based on the building inventory presented in Section 2.3.3, reuse and rehabilitation of most of these buildings would be cost prohibitive. Future covenant restrictions are likely for Building 34 (Bowditch Hall) and Building 14 within the public sale portion of NUWC. These are described in detail in Section 2.7.2 of this document.

Numerous mitigative measures have been proposed to offset impacts to cultural resources. These are described in Section 5.0 of this document.

4.8.1 Alternative No. 1 - No Action

Hypothetically, any archeological resources off the NUWC property would be preserved under this alternative. Due to the potentially sensitive contexts of certain properties in this area, the City of New London could require archeological investigations prior to future demolition and construction related to changing land use on a parcel-by-parcel basis. However, there is no mandatory or programmatic requirement to do so. Therefore, with no firm commitment to conduct additional archeological survey, additional resources may be lost if the no action alternative were pursued as compared with the other alternatives.

The LRA's preferred reuse plan for NUWC contemplates the reuse of five buildings (Buildings 2, 80, 96, 99, and 101) in the public sale portion of the property, as well as restoration and reuse of Buildings 13, 14, 27, 32, and 42 for office and as attractions. Buildings 41, 44, 34, 28, and 94 (which have been identified as eligible structures) would be demolished.

4.8.2 Alternative No. 2 – Recreation/Tourism

Moderately to highly sensitive archeological areas are crossed by the state park expansion, the riverfront walkway, and the Pequot Avenue R&D area. Specific areas are likely to be affected by hotel construction, cultural museum/active recreation, the recreation center, and office/incubator construction. Archeological investigations should provide substantial thematic contexts for museum programs, exhibits, and tourism in this alternative. Substantial areas containing archeological sites might be preserved in this plan. Most, if not all of the identified eligible structures in the future development area at NUWC would be demolished. This is also true for Alternatives 3 through 6.

4.8.3 Alternative No. 3 – Residential/Commercial

Residential development may be able to incorporate preservation of identified archeological sites as open space. Existing neighborhood homes of architectural interest and/or archeological significance could be preserved. Archeological sites identified in the R&D, office/incubator, and retail areas are expected to have intensive ground modifications that may require data recovery of significant archeological sites, if found.

4.8.4 Alternative No. 4 – Business Campus

As in other alternatives, the business campus development is expected to affect moderately to highly sensitive archeological areas, with few opportunities for open space preservation of identified archeological sites.

4.8.5 Alternative No. 5 – Mixed Use 1

Similar to Alternative 3, residential and recreational development can be designed to incorporate archeological site preservation in the open space areas.

Office/incubator, R&D, and hotel/conference center development are less adaptable for archeological preservation.

4.8.6 Alternative No. 6 – Mixed Use 2

Impacts associated with Alternative 6 would be similar to Alternative 5, except that the larger area of open space designated in the eastern portion of the MDP area would result in less ground disturbance and, therefore, be more adaptable for archeological preservation.

4.9 Traffic and Parking Impacts

4.9.1 Traffic Generation

Analyses required to assess existing (1998) and future year (2010) anticipated traffic volumes (with and without site traffic) for the weekday A.M. and P.M. peak highway hours are based on manual turning movement counts conducted on Thursday, August 13, 1998, and on Fridays, August 14 and 21, 1998. The turning movement counts performed for the periods 7:00 A.M.-9:00 A.M. and 4:00 P.M.-6:00 P.M. determined that weekday peak commuter hours are from 8:00-9:00 A.M. and 4:15-5:15 P.M. Existing (1998) weekday A.M. and P.M. traffic volumes are presented in Appendix D (Figures 1 and 2, respectively). Based on existing traffic patterns and proposed development land uses, it is anticipated that the most intense traffic impacts will occur during the weekday A.M. and P.M. peak commuter hours.

Future year 2010 projected traffic volumes without Fort Trumbull MDP development consists of expansion of existing year 1998 traffic volumes by 1.0% per year compounded annually plus the addition of peak hour traffic generated by the Pfizer facility. Estimated 2010 traffic volumes for the A.M. and P.M. weekday peak commuter hours, without the Fort Trumbull MDP area development, are presented in Appendix D (Figures 3 and 4, respectively).

Anticipated future year traffic generated by the proposed Fort Trumbull MDP were developed for six development alternatives including:

- Alternative 1 – No Action Alternative;
- Alternative 2 – Recreation/Tourism Alternative;
- Alternative 3 – Residential/Commercial Alternative;
- Alternative 4 – Business Park Alternative;
- Alternative 5 – Mixed Use 1; and
- Alternative 6 – Mixed Use 2.

Estimates of anticipated traffic generated by these alternatives were developed for the various proposed land uses in the MDP area using the Institute of Transportation Engineers', "Trip Generation" publication, 6th Edition. Trips generated by existing office space (50,500 square feet) are based on General Office Building trip generation rates (ITE Land Use 710), whereas proposed office/incubator and Research & Development office spaces are based on ITE Land Use 760 for Research and Development Center Uses.

Projected traffic generation is summarized in Table 4.9-1.

TABLE 4.9-1
Summary of Projected Traffic Counts

Condition	A.M.		P.M.	
	Entering	Exiting	Entering	Exiting
Alternative 1 – No Action	1,081	326	333	961
Alternative 2 – Recreation/Tourism	690	402	280	565
Alternative 3 – Residential/ Commercial	575	478	341	495
Alternative 4 – Business Campus	973	466	337	812
Alternative 5 – Mixed Use 1	654	417	315	541
Alternative 6 – Mixed Use 2	671	428	331	556

Development Alternatives 1, 4, and 6 represent high trip generations relative to the six development alternatives and are used for analysis in this report. Tables 4.9-2 and 4.9-3 present a breakdown of the anticipated site trips generated during the weekday A.M. and P.M. peak highway hours for Alternatives 4 and 6, respectively.

Site traffic is distributed over the study area roadway system based on existing traffic patterns and distribution patterns presented in previous traffic reports for developments in the area, including the traffic study for Pfizer's adjacent facility. The distribution pattern used for the MDP area is as follows:

- 77% of the site traffic is oriented to and from the north and east, by way of Howard Street and Bank Street through New London's Central Business District, to/from the I-95 interchange;

- 8% of the site traffic is oriented to and from the north and west by way of Bank Street using Howard Street and Shaw Street for access;
- 10% of the site traffic is oriented to and from the west by way of Willetts Avenue; and
- 5% of the site traffic is oriented to and from the south by way of Pequot Avenue.

Alternatives 4 and 6 include approximately 12 land use areas within each alternate. For purposes of traffic analyses, access to development area is grouped within each alternate by a common access via Hamilton Street via the intersection of Howard Street/ Walbach Street, via the intersection of Trumbull Street/Pequot Avenue, via Trumbull Street and via Walbach Street.

Site generated traffic in Alternatives 4 and 6 were superimposed on the future year base traffic volumes to create future year (2010) combined traffic volumes for the weekday A.M. and P.M. peak highway hours. Appended Figures 5, 6, 7 and 8 present the combined traffic volumes for each scenario (Appendix D).

Anticipated Site Generated Traffic
Alternate 4 – Business Campus Alternate
Fort Trumbull MDP, New London, Connecticut

Land Use	Size	ITE Code	Weekday Trip Generation Rate						Weekday Generated Vehicle Trips					
			AM		PM		Daily		AM		PM		Daily	
			Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
PENINSULA AREA														
State Park	16.0 Acres			-	-	-	-	-	45	5	10	40	100	100
Columbia Cove Marina	100 Slips	420	0.03	0.05	0.11	0.08	1.48	1.48	3	5	11	8	148	148
Hotel/Conference Center	200 Rooms	310	0.34	0.22	0.32	0.29	4.12	4.12	68	44	64	58	824	824
Office/Incubator	375,000	760	1.03	0.21	0.16	0.92	4.06	4.06	386	79	60	345	1,523	1,523
Water Related Commercial	30,000 sq. ft.	814	3.08	3.33	1.11	1.48	20.34	20.34	93	100	34	45	610	610
Waste Water Treatment Plant	40 Employees	-	-	-	-	-	-	-	(30) (Assumes 3 shifts with 30 employees on first shift, 6 employees on second shift and 4 employees on third shift)	(4)	(6)	(30)	(60)	(60)
Peninsula Area Sub Totals									**625**	**237**	**185**	**526**		
GATEWAY AREA														
Residential	30 Single Family attached/ detached units	270	0.11	0.40	0.40	0.22	3.75	3.75	4	12	12	7	113	113
Office (Existing)	50,500 sq. ft.	710	1.37	0.19	0.25	1.24	5.51	5.51	69	10	13	63	278	278
Retail/	3,750 sq. ft.	852	15.51	15.51	16.94	17.63	-	-	58	58	64	66	-	-
Specialty Retail	11,250 sq. ft.	814	3.08	3.33	1.11	1.48	20.34	20.34	35	38	13	17	229	229
R & D Office	70,000 sq. ft.	760	1.03	0.21	0.16	0.92	4.06	4.06	72	15	12	65	305	305
Waterfront Commercial	25,000 sq. ft.	814	3.08	3.33	1.11	1.48	20.34	20.34	77	84	28	37	509	509
Residential (existing)	8 dwelling units (existing)	210	0.19	0.56	0.65	0.36	4.79	4.79	2	5	5	3	38	38
Office/Incubator	30,000 sq. ft.	760	1.03	0.21	0.16	.92	4.06	4.06	31	7	5	28	122	122
Gateway Area Sub Totals									**348**	**229**	**152**	**286**		
TOTALS									**973**	**466**	**337**	**812**		

(xx) Estimated

ANTICIPATED SITE GENERATED TRAFFIC
Alternate 6 – Mixed Use Alternate #2
Fort Trumbull MDP, New London, Connecticut

Land Use	Size	ITE Code	Weekday Trip Generation Rate						Weekday Generated Vehicle Trips					
			AM		PM		Daily		AM		PM		Daily	
			Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
PENINSULA AREA														
State Park	16 Acres	(Note 1)	-	-	-	-	-	-	45	5	10	40	100	100
Columbia Cove Marina	100 Slips	420	0.03	0.05	0.11	0.08	1.48	1.48	3	5	11	8	148	148
Hotel/Conf Center	250 Rooms	310	0.34	0.22	0.32	0.29	4.12	4.12	85	55	80	73	1030	1030
Athletic Club/Field	25,000 sq. ft.	492	0.73	0.73	0.92	0.92	8.57	8.57	19	19	23	23	215	215
			(Assumes 50% in, 50 percent out)											
Residential Mid-Range	115 Units (Single family attached and deatched units)	270	0.11	0.40	0.40	0.22	3.75	3.75	13	46	46	25	432	432
Water Related Commercial	30,000 sq. ft.	814	3.08	3.33	1.11	1.48	20.34	20.34	93	100	34	45	610	610
Waste Water Treatment Plant	40 Employ Plant	-	-	-	-	-	-	-	(30)	(4)	(6)	(30)	(60)	(60)
									(Assumes 3 shifts with 30 employees on first shift, 6 employees on second shift and 4 employees on third shift)					
							Peninsula Area Sub Totals		**288**	**234**	**210**	**244**		
GATEWAY AREA	–													
Office (Existing)	50,500 sq. ft.	710	1.37	0.19	0.25	1.24	5.51	5.51	69	10	13	63	278	278
Office/Incubator	100,000 sq. ft.	760	1.03	0.21	0.16	.92	4.06	4.06	103	21	16	92	406	406
Retail/	2,500 sq. ft.	852	15.51	15.51	16.94	17.63	-	-	39	39	43	44	-	-
Specialty	7,500 sq. ft.	814	3.08	3.33	1.11	1.48	20.34	20.34	23	25	9	11	153	153
R & D Office	70,000 sq. ft.	760	1.03	0.21	0.16	0.92	4.06	4.06	72	15	12	65	305	305
Waterfront Commercial	25,000 sq. ft.	814	3.08	3.33	1.11	1.48	20.34	20.34	77	84	28	37	509	509
							Gateway Area Sub Totals		**383**	**194**	**121**	**312**		
							TOTALS		**671**	**428**	**331**	**556**		

(xx) Estimated

Notes: 1. DEIS – Disposal and Reuse of Naval Underwater Warfare Center, New London, Connecticut; January 23, 1998, prepared by TAMS, page 4.4-2 and Table 4.4-1.

Wilbur Smith Associates

Anticipated future year 2010 combined traffic volumes are sufficient to require roadway and intersection improvements within and external to the MDP area. Vertical and horizontal clearances at existing railroad underpasses on Pequot Avenue and on Walbach Street were examined and three roadway improvement options (A, B, and C) were developed. These improvement plans, described in Section 3.0 of this document, were evaluated for the A.M. and P.M. peak commuter hours in alternate development scenarios 4 and 6.

Future year 2010 combined traffic volumes, as presented in Appendix D (Figures 5, 6, 7 and 8), are consistent with roadway improvement Options A and C. Roadway Option B introduces three improvement strategies concepts which alter existing traffic patterns; namely, Shaw Street is proposed to be a cul-de-sac south of Harris Street; Hamilton Street (east of Howard Street) will cross the rail line and provide new access to the site on the east side of the railroad; and Walbach Street would cease to be a vehicular access under the railroad. Accordingly, revised traffic patterns are presented for the weekday A.M. and P.M. peak highway hours for Alternatives 4 and 6 in Appendix D (Figures 9, 10, 11 and 12).

4.9.2 Intersection Capacity Analysis

Capacity analyses and levels of service determinations were computed to determine the adequacy of study area intersections in existing year 1998, future year 2010 without site traffic, and future year 2010 with site traffic. Future year 2010 analyses with site traffic were performed under roadway improvement Options A, B, and C for Alternatives 4 and 6. Capacity analyses were performed at the following intersections:

- Bank Street at Shaw Street/Truman Street;
- Bank Street at Howard Street/Reed Street;
- Howard Street at Hamilton Street;
- Hamilton Street at Shaw Street;
- Howard Street at Walbach Street;
- Howard Street at Shaw Street/Pequot Avenue/ Willetts Avenue;
- Pequot Avenue at Trumbull Street/Pfizer Drive; and
- Howard Street at Relocated Hamilton Street (Applicable to Roadway Option B only).

Intersection capacities were performed in accordance with analyses techniques described in the 1994 Highway Capacity Manual, *Special Report 209*, published by the Transportation Research Board, National Research Council, Washington, D.C. Capacity analysis software is Highway Capacity Software – 1994 version 2.4g (signalized intersections) and version 2.1g (unsignalized intersections).

4.9.3 Evaluation Methodology

The adequacy of the study area intersections were analyzed to determine operating characteristics and the need for proposed improvements. Level of Service analyses were computed for existing and future year operations using these analyses.

A study of capacity is important in determining the ability of a specific roadway or intersection to accommodate traffic under various levels of service. Level of service (LOS) is a qualitative measure describing driver satisfaction with a number of factors that influence the degree of traffic congestion. These factors include speed and travel time, traffic interruption, freedom of maneuverability, safety, driving comfort and convenience, and delay.

There are six levels of service describing flow conditions. The highest, Level of Service A, describes a condition of free flow, with low volumes and high speeds. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain speeds with little or no delay. This occurs when vehicle progression is extremely favorable, and most vehicles arrive during the green phase of a traffic signal.

Level of Service B represents a stable traffic flow with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane operations.

Level of Service C, which is normally utilized for design purposes, describes a stable condition of traffic operation. It entails moderately restricted movements due to higher traffic volumes, but traffic conditions are not objectionable to motorists.

Level of Service D, acceptable for traffic operation in urban environments and during peak hours of traffic flow, reflects a condition of more restrictive movement for motorists. Queues and delays may occur during short peaks, but lower demands occur often enough to permit clearance of developing queues, thus preventing excessive backup. At Level of Service D, the influence of congestion becomes more noticeable and longer delays may result from unfavorable vehicle progression.

Level of Service E is defined as the actual capacity of the roadway or intersection, and involves delay to all motorists due to congestion. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor vehicle progression.

The lowest, Level of Service F, is described as forced flow and is characterized by volumes greater than the

theoretical roadway capacity. Complete congestion occurs and, in extreme cases, the volume passing a given point drops to zero. This is generally considered unacceptable traffic operations.

Levels of service criteria for signalized intersections is quantified in terms of delay, which may be used as a measure of driver discomfort, excess fuel consumption, and lost travel time. Specifically, level of service criteria, stated in terms of the average "stopped" delay per vehicle, are presented in Table 4.9-4.

TABLE 4.9-4
Levels of Service for Signalized Intersections

Level of Service	Stopped Delay per Vehicle (seconds)
A	5.0 or less
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60
F	greater than 60

Level of service criteria for unsignalized intersections is given in terms of reserve or unused capacity of the approach lane in question under STOP control. These are presented in Table 4.9-5.

TABLE 4.9-5
Levels of Service for Unsignalized Intersections

Level of Service	Reserve Capacity (vehicles per hour)
A	400 or more
B	300 to 399
C	200 to 299
D	100 to 199
E	0 to 99
F	Demand exceeds lane capacity.

These levels of service are defined by the 1994 *Highway Capacity Manual, Special Report 209*, published by the Transportation Research Board, National Academy of Sciences.

Table 4.9-6 summarizes anticipated levels of service for the study area intersections. Table 4.9-7 presents critical volume/capacity ratios. The analyses assume that future improvements would be made to mitigate anticipated traffic flows including:

TABLE 4.9-6

ANTICIPATED LEVELS OF SERVICE
Fort Trumbull MDP Area
New London, CT

					Year 2010 – Development Alternative 4						Year 2010 – Development Alternative 6					
	1998 Existing		2010 w/o site[1]		Road Alt A		Road Alt B		Road Alt C		Road Alt A		Road Alt B		Road Alt C	
Intersection	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Bank Street & Reed St./Howard Street	B	B	C	D	C	D	C	D	C	D	C	C	C	C	C	C
Bank Street & Truman St./Shaw Street	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Hamilton Street/Shaw St. & Commercial Drive	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]	A[2]
Howard Street & Hamilton Street	A[3]	A[3]	A[3]	A[3]	A	A	n/a	n/a	A	A	A	A	n/a	n/a	A	A
Howard Street & Relocated Hamilton Street	n/a	n/a	n/a	n/a	n/a	n/a	B	B	n/a	n/a	n/a	n/a	B	B	n/a	n/a
Howard Street & New Bridge Road	n/a	n/a	n/a	n/a	n/a	n/a	D	C	n/a	n/a	n/a	n/a	B	B	n/a	n/a
Howard Street & Walbach Street	A[3]	A[3]	A[3]	A[3]	B	B	n/a	n/a	B	B	B	B	n/a	n/a	B	B
Howard St./Shaw St./Willetts Ave./Pequot Avenue	A[3]	A[3]	C[3]	F[3]	C	C	B	B	C	C	B	C	B	B	B	C
Pequot Ave. & Trumbull St/Pfizer Drive	A[3]	A[3]	F[3]	F[3]	B	B	B	B	B	B	B	B	B	B	B	B

n/a – not applicable, intersection does not exist.
Notes: All intersections are signalized except as noted
(1) Includes Pfizer Global Development Facility
(2) All Way Stop Sign Controlled
(3) Two Way Stop Sign Controlled

TABLE 4.9-7
Anticipated Critical Volume/Capacity Ratios
For Trumbull MDP Area

Intersection	1998 Existing		2010 w/o site[1]		Year 2010 – Development Alternative 4						Year 2010 – Development Alternative 6					
					Road Alt A		Road Alt B		Road Alt C		Road Alt A		Road Alt B		Road Alt C	
	A.M.	P.M.			A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Bank & Reed St./Howard.	0.40	0.60	0.88	0.97	0.91	0.95	0.91	0.95	0.91	0.95	0.81	0.86	0.81	0.86	0.81	0.86
Bank & Truman/Shaw	0.61	0.83	0.71	0.87	0.61	0.78	0.61	0.78	0.61	0.78	0.61	0.78	0.61	0.78	0.61	0.78
Hamilton/Shaw & Commercial Dr.[2]	0.08[2]	0.14[2]	0.09[2]	0.26[2]	0.12[2]	0.27[2]	0.14[2]	0.38[2]	0.12[2]	0.27[2]	0.11[2]	0.26[2]	0.14[2]	0.43[2]	0.11[2]	0.26[3]
Howard & Hamilton	0.06[3]	0.15[3]	0.22[3]	0.47[3]	0.63	0.70	n/a	n/a	0.63	0.70	0.52	0.66	n/a	n/a	0.52	0.66
Howard & Relocated Hamilton St.	n/a	n/a	n/a	n/a	n/a	n/a	0.63	0.61	n/a	n/a	n/a	n/a	0.61	0.53	n/a	n/a
Howard & New Bridge Rd.	n/a	n/a	n/a	n/a	n/a	n/a	0.89	0.87	n/a	n/a	n/a	n/a	0.73	0.80	n/a	n/a
Howard & Walbach St.	0.07[3]	0.09[3]	0.18[3]	0.27	0.80	0.81	n/a	n/a	0.80	0.81	0.56	0.73	n/a	n/a	0.56	0.72
Howard/Shaw/Willetts/Pequot	0.36[3]	0.57[3]	0.99[3]	1.74[3]	0.83	0.95	0.73	0.80	0.83	0.95	0.80	0.89	0.68	0.75	0.80	0.89
Pequot & Trumbull/Pfizer Dr.	0.04[3]	0.03[3]	0.81[3]	1.08[3]	0.79	0.76	0.76	0.73	0.72	0.76	0.76	0.71	0.73	0.71	0.72	0.71

n/a – not applicable, intersection does not exist.
Please note all intersections are signalized except as noted.
(1) Includes Pfizer Global Development Facility
(2) All-way Stop Sign Controlled
(3) Two-way Stop Sign Controlled

- Implementation of Roadway Improvement Options A, B, or C as appropriate;
- Providing a westbound double left turn lane and a northbound double right turn lane at the intersection of Bank Street/Howard Street/Reed Street.
- An upgraded traffic signal installation with new timing, phasing and sequencing at the Bank Street/Howard Street/Reed Street intersection;
- Revised timing of the existing traffic signal at Bank Street/Shaw Street/Trumbull Street;
- Installation of new traffic signals (from STOP sign control) at the following intersections:
  - Howard Street at Hamilton Street;
  - Howard Street at Relocated Hamilton Street (Roadway Improvement Option B only);
  - Howard Street at Walbach Street;
  - Howard Street at Shaw Street/Willetts Avenue/Pequot Avenue; and Pequot Avenue at Trumbull Street/Pfizer Drive.

In addition, on-street parking on Howard Street between Shaw Street and Walbach Street is proposed to be prohibited to maintain four lanes of traffic.

These analyses indicate that, in general, Level of Service C or better can be achieved at most intersections under Alternatives 4 and 6, with roadway Alternatives A, B, and C. The exceptions are the intersection of Howard Street at Hamilton Street and New Bridge Road in Alternative 4 with Roadway Improvement Option B, where LOS D is provided in the A.M. peak

highway hour; and the intersection of Bank Street at Howard Street/Reed Street in Alternative 4 in the P.M. peak highway hour.

4.10 Water Resources Impacts

The predominant water resource in the project area is the Thames River. Various potential impacts have been evaluated with respect to water quality and the Thames River. Water quality issues associated with stormwater runoff are presented in Section 4.7 of this document. Flood related impacts are presented in Section 4.11. Potential impacts to fisheries and living marine resources in the Thames River are presented in Section 4.12.

4.11 Flood Hazard Impacts

Each of the alternative development plans have been reviewed with respect to conformance with state floodplain policies and FEMA planning considerations as defined in part 60.22 of the National Flood Insurance Program regulations. A summary of flood hazard impact potential for each alternative follows. Figure 110-1 (presented in Section 2.10 of this document) graphically presents the FEMA Flood Zones in the MDP area.

4.11.1 Common Elements

The proposed 2.1-acre waterfront commercial use area next to Shaw's Cove is a feature of Alternatives 2 through 6. While this is a flood prone area, the existing and proposed water-dependent activities must be located adjacent to coastal waters and cannot avoid being flood prone. New buildings would have to comply with FEMA structural standards.

The office incubator and retail type uses planned in Alternatives 2 through 6 would be located largely in designated flood hazard areas. The first floor levels would, therefore, need to either be elevated above the base flood, floodproofed, or allowed to flood with damages. Any increase in the square footage could be inconsistent with state floodplain policies (Section 25-68h).

The southern part of the Fort Area is subject to coastal flooding. The existing regional Water Pollution Control Facility which bisects Trumbull Street is in an original flood prone area; however, buildings and tanks have been elevated with fill material to reduce their risk. All new construction at this site must also be elevated.

Alternatives 2 through 6 include 2.5 acres of water-related uses at Trumbull Street and Smith Street in a flood prone area. This area includes the existing Fort Trumbull Marina and lobster packaging operations. Any future buildings will need to be designed to minimize flood hazards.

The proposed Columbia Cove area in Alternatives 2 through 6 is a water-dependent use in a flood prone area. Its location is unavoidable. The proposed hotel/conference center at the north end of the MDP area is at the edge of the flood hazard area. This affords the opportunity to avoid the flood prone area by moving the core building west to high ground or to elevate it above the base flood.

4.11.2 Alternative No. 1 – No Action

Under the no action alternative, existing flood prone areas would remain subject to flooding and new construction would have to be in compliance with local

floodplain zoning and building standards. The floodplain has little impact on development of the state park.

4.11.3 Alternative No. 2 – Recreation/Tourism

The portion of the Fort Area north of Hamilton Street consists of dry upland between the railroad and extension of Smith Street, with flood prone areas near the shoreline. The higher ground is suitable for the recreation center proposed in Alternative 2.

The central part of the Fort Area has a high rocky hill that extends above coastal flood levels. It is well suited for cultural uses. However, the proposed open space in Alternative 2 underutilizes this upland area.

The west side of Pequot Avenue south of Trumbull Street is not in a designated flood hazard area and is, therefore, suitable for the planned research and development office space, as well as other activities which are poorly suited for flood prone areas.

The north and south ends of the NUWC site, and its eastern coastline, are in flood prone areas. The proposed state park is consistent with open space floodplain usage. New buildings should be limited to upland areas, or designed to be insensitive to flood inundation.

4.11.4 Alternative No. 3 – Residential/Commercial

The planned residential development on the west side of Howard Street in the Gateway Area is in a flood prone area and is inconsistent with state floodplain management policy (Section 25-68h). State funds cannot be used for residential uses in the floodplain.

This alternate includes a large area of residential development in the Fort Area and in the north end of

the NUWC property near Columbia Cove. About half of the residential development is in the floodplain and is inconsistent with state floodplain management policies (Section 25-68h). While construction is allowed in A-zones in accordance with specific building criteria, it is not advisable to locate residential structures, especially high density residences, in a flood hazard area when alternative locations exist.

The waterfront commercial area at South Cove is also in the floodplain, as is some retail and office areas. However, these latter uses are subject to less rigorous standards.

4.11.5 Alternative No. 4 – Business Campus

The enlarged proposed residential area in the floodplain west of Howard Street in the Gateway Area is inconsistent with state floodplain management policy (Section 25-68h). State funds cannot be used for residential uses in the floodplain. The waterfront commercial area at Shaw's Cove and the limited retail and office areas are also in the floodplain but may not be considered intensive uses.

A significant portion of the proposed office incubator campus space is located in the desigNated floodplain area. State policy discourages any increase in the square footage of such building space in flood prone areas. However, in view of the large area of existing office space at NUWC that is being replaced, it could be proportioned to avoid a more intensive use. Building space should still be elevated and/or floodproofed. The western and southern part of the proposed business campus is not within the floodplain and is thus more suitable for the higher building densities.

The proposed hotel conference center area is partially within the floodplain. It is anticipated that the actual

building of moderate size could avoid the floodplain. As in previous alternatives, the proposed Columbia Cove area is in a floodplain and cannot avoid being in an exposed area.

4.11.6 Alternative No. 5 – Mixed Use 1

The proposed land use west of the railroad would be office and office/incubator spaces in the floodplain. Any increase in the square footage of this type of activity could be considered an "intensive use" with respect to state floodplain management policies. New buildings would have to conform with floodplain zoning and building standards. The waterfront commercial area at Shaw's Cove remains flood prone as per previous alternatives.

The large flood prone area in the Fort Area on both sides of Smith Street would be developed with residential uses. Similar to Alternative 3, this is in conflict with the state floodplain management policies (Section 25-68h). Extensive fill would be necessary for this alternative and said fill is not eligible for state funding.

The proposed hotel/conference center is partially located within a floodplain area. As in other alternatives, it is anticipated that the actual building of moderate size could avoid the floodplain. The proposed Columbia Cove area is in the floodplain and cannot avoid the flood prone area.

4.11.7 Alternative No. 6 – Mixed Use 2

The proposed Alternative 6 land uses in the Gateway Area are similar to Alternative 5. Any increase in square footage over existing conditions could be considered "intensive" with respect to floodplain

management policies. Buildings would need to be elevated and/or floodproofed.

The primary difference between Alternatives 5 and 6 is the location of residential uses away from the floodplain. The area east of Smith Street would be utilized for open space and athletic facilities, with higher density uses located on the higher ground, closer to the railroad. This also allows additional space for a larger hotel/conference center. Open space uses such as fields and recreational facilities are more appropriate in coastal flood hazard areas.

The Columbia Cove area would remain in a flood prone area as in other alternatives. This is an unavoidable location and the associated buildings must be designed accordingly.

4.11.8 Summary

Alternatives 2 and 6 are most compatible with flooding issues in the MDP area due to the larger areas of park and open space, while Alternatives 3 and 5 are least compatible with flood prone areas with respect to their residential uses. Alternative 6 places open space/recreational facilities in the river side floodplain areas, while increasing the building density in upland areas. A summary of impacts is presented in Table 4.11-1.

Table 4.11-1
Summary of Uses and Associated Flood Impacts

Area	Location	Flood Risk	Wave Risk	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
Gateway	North	High	Low	No proposed change.	Waterfront Commercial	Waterfront Commercial	Waterfront Commercial	Waterfront Commercial	Waterfront Commercial
	South	High	Low	No proposed change.	Office/ Commercial	Office/ Residential	Office/ Incubator	Office/Retail	Office/ Incubator
Fort	North	Moderate	Low	No proposed change.	Hotel/ Recreation	Residential	Hotel/ Conference	Hotel/ Residential	Hotel/ Conference
	Central	Low	Low	No proposed change.	Cultural/ Museum	Residential/ Open	Office/ Incubator	Residential/ Ath. Club	Recreation
	South	Moderate	Low	No proposed change.	WPCF	WPCF	WPCF	WPCF	WPCF
	Southeast	Moderate	Moderate	No proposed change.	Water-related Use	Water-related Use	Water-related Use	Water-related Use	Water-related Use
NUWC	South	High	Moderate	State Park	State Park	State Park	State Park	State Park	State Park
	Central	High	Moderate	Office	State Park	Residential	Office/ Incubator	Residential	Athletic Center
	North	High	Low	Water-related Use	State Park	Residential	Hotel/ Conference	Hotel/ Conference	Hotel/ Conference
Pequot	All	Low	Low	No proposed change.	R&D Office	R&D Office	R&D Office	R&D Office	R&D Office

4.12 Biological Environment Impacts

4.12.1 Alternative No. 1 – No Action

Fisheries

The Thames River estuarine waters are of significant value to many of Connecticut's freshwater and marine resources. The river provides productive feeding and spawning habitat to fish species, many of which are of commercial and recreational importance.

Under Alternative 1, water-related and waterfront uses include the proposed Fort Trumbull State Park, a high speed ferry terminal, and a biotech office park. Waterfront uses would include the use of Piers 4 and 7 for recreation and fishing. Additionally, Pier 7 would be used for boat mooring and R&D support. Building 45 would be retained by the Coast Guard along with the adjacent land and Pier 2.

The use of existing piers for fishing, recreation, and boat mooring would not significantly impact fisheries resources in the Thames River. No activities have been identified under this alternative that involve the disturbance of riverbed substrate, such as dredging, filling, or the construction of new piers or marinas. Any future proposed in-water activities would require a regulatory permit from either or both the Connecticut Department of Environmental Protection and the Army Corps of Engineers.

Living Marine Resources

The lower Thames River provides habitat for several shellfish species. However, the reach of the Thames River adjacent to the project area is classified as a prohibited shellfish area by the Bureau of Aquaculture.

The use of existing piers for fishing, recreation, and boat mooring would not be expected to impact marine resources.

Vegetation

The MDP area is currently developed to very near its maximum density. The majority of the project area consists of commercial and industrial buildings, residences, sidewalks, parking lots, and roads. For the most part, vegetation is limited to small maintained lawns, some with ornamental trees. The study area contains several undeveloped parcels that are overgrown by invasive plan species that tend to thrive in areas that have been disturbed.

Under Alternative 1, the NUWC site would be redeveloped as mixed-use, including Fort Trumbull State Park, as well as recreational, waterfront, Coast Guard, and future development uses. This proposed redevelopment would possibly result in the loss of several lawns and a number of ornamental trees associated with the NUWC facility. However, the proposed state park and recreational uses would likely result in more, higher quality vegetation than that which currently exists. Additionally, it is likely that vegetated areas would be maintained so as to keep invasive species under control.

Under Alternative 1, the remainder of the project area would remain in the context of the existing land use patterns, with possible redevelopment of the area taking place on a parcel by parcel basis. The vacant parcels, if developed, would most likely be cleared of existing vegetation.

Inland Wetlands

The small ephemeral watercourse located on the vacant parcel between Howard Street and Shaw Street is situated in a depressed channel with steep banks of fill material. Minimal areas of regulated wetland soils have been identified in this area. Under Alternative 1, the parcel containing this wetland area would remain in the context of the existing land use pattern.

Tidal Wetlands

Tidal wetlands occur at the western edge of Bentley Creek between the regional Water Pollution Control Facility and the future Pfizer facility. This area is the focus of a restoration plan in conjunction with the planned Pfizer development. Pfizer is currently working with the Department of Environmental Protection's Office of Long Island Sound Programs to develop an acceptable restoration plan for this tidal wetland area.

Wildlife

The MDP project area is characterized by commercial and industrial buildings, residences, sidewalks, parking lots, and roads. Due to the intensive development of these areas, there is insufficient natural habitat to support most wildlife species. The project area contains several undeveloped vegetated parcels. Although these areas do not offer significant natural habitat, and are unlikely to support most wildlife species, they probably support a limited number of wildlife species that have adapted to life in an urban or near urban environment. Several of these species benefit due to their interaction with humans.

Under Alternative 1, proposed redevelopment includes the NUWC parcel only. This area contains insufficient natural habitat to support most wildlife species. The remainder of the project area would remain in the context of the existing land use patterns, with possible redevelopment of the area taking place on a parcel-by-parcel basis. The vacant parcels, if developed, would result in the displacement of several ubiquitous wildlife species.

Species of Special Concern

The Thames River is the only resource listed in the Department of Environmental Protection's Natural Diversity Data Base, due to the occurrence of Atlantic sturgeon in the river. Potential fisheries impacts are described above.

4.12.2 Alternative No. 2 – Recreation/Tourism

Fisheries

Under Alternative 2, potential impacts to fisheries are limited to those activities associated with the proposed land uses in and around Columbia Cove and the existing Fort Trumbull Marina.

The majority of land use concepts associated with the Recreation/Tourism alternative do not infringe upon the Thames River and would not result in in-water activities. This area of the Thames River shoreline has been heavily disturbed through the years, including extensive dredging and construction of shoreline structures. Shallow shoreline habitats which are conducive to many fisheries species are essentially nonexistent in the project area.

Fishing piers, associated with a future state park, are not likely to have an adverse affect on fisheries in the

Thames River nor would the reuse of existing marinas. Specific proposals involving in-water activities have not yet been developed. At such time as a specific activity is proposed, the proper controls to avoid environmental impacts would be prescribed.

Activities that involve the disturbance of riverbed substrate, such as dredging, filling, or the construction of new piers or marinas, could potentially have a negative impact on fisheries habitat if proper construction methods were not employed or if ongoing operational practices were not in keeping with best management practices and regulatory requirements. Any future proposed in-water activity would require regulatory permits from either or both the Connecticut Department of Environmental Protection and the Army Corps of Engineers, as well as local permits.

Living Marine Resources

Under Alternative 2, potential impacts to marine resources pertain to in-water activities as well as those which would occur along the Thames River shoreline. The lower Thames River provides habitat for several shellfish species. However, the reach of the Thames River adjacent to the project area is classified as a prohibited shellfish area by the Bureau of Aquaculture.

As with the No Action alternative, the use of existing piers for fishing, recreation, and boat mooring would not be expected to impact marine resources. Activities that involve the disturbance of riverbed substrate, such as dredging, filling, or the construction of new piers or marinas, could potentially have a negative impact on living marine resources if shellfish beds were present in these areas. However, existing data and information does not indicate the presence of

such resources in this area. Additional study associated with regulatory permitting would be necessary if such activities were proposed.

Vegetation

The majority of proposed land use in Alternative 2 to the east of the railroad is recreational or tourism related. The state park would be expanded from approximately 16 acres to 30 acres. A small amount of lawn and other low-quality vegetation would likely be cleared for the proposed park and other identified uses. However, the park would likely result in more, higher quality vegetation than that which currently exists. Additionally, it is likely that vegetated areas would be maintained so as to keep invasive species under control.

Inland Wetlands

The small ephemeral watercourse located on the vacant parcel between Howard Street and Shaw Street is situated in a depressed channel with steep banks of fill material. Minimal areas of regulated wetland soils have been identified in this area, with minimal functional value other than to convey stormwater. Under Alternative 2, the parcel containing this wetland area would be developed as an office/incubator use. The density of this development, as well as development in the other alternatives, is such that direct impact can be avoided. Given the low quality of this wetland, the potential exists to partially restore it during future development. Under this and all other alternatives, additional wetland delineation and survey would be necessary prior to conducting any construction activities.

Tidal Wetlands

The Thames River shoreline has been altered by many decades of shoreline dredging, filling, and placement of structural barriers, leaving the area devoid of significant areas of tidal wetlands. Tidal wetlands do occur at the western edge of Bentley Creek between the regional Water Pollution Control Facility and the future Pfizer facility. This area is the focus of a restoration plan in conjunction with the planned Pfizer development. Pfizer is currently working with the Department of Environmental Protection's Office of Long Island Sound Programs to develop an acceptable restoration plan for this tidal wetland area.

Wildlife

The MDP project area is characterized by commercial and industrial buildings, residences, sidewalks, parking lots, and roads. Due to the intensive development of these areas, there is insufficient natural habitat to support most wildlife species. The project area contains several undeveloped vegetated parcels. Although these areas do not offer significant natural habitat, and are unlikely to support most wildlife species, they probably support a limited number of wildlife species that have adapted to life in an urban or near urban environment. Several of these species benefit due to their interaction with humans.

Under Alternative 2, development of the vacant parcels would result in the displacement of several ubiquitous wildlife. The displacement of these species would be more than offset by the development of a natural area in Fort Trumbull State Park.

Species of Special Concern

The Thames River is the only resource listed in the Department of Environmental Protection's Natural Diversity Data Base, due to the occurrence of Atlantic sturgeon in the river. Potential fisheries impacts are described above.

4.12.3 Alternative No. 3 – Residential/Commercial

Fisheries

Under Alternative 3, potential impacts to fisheries are limited to those areas associated with the development of Columbia Cove and the redevelopment of Fort Trumbull Marina. Therefore, impacts would be the same as those discussed under Alternative 2.

Living Marine Resources

Potential impacts to living marine resources associated with Alternative 3 would be the same as those discussed for Alternative 2.

Vegetation

Alternative 3 focuses on providing housing to meet the needs of the existing community and future residents. Fort Trumbull State Park would occupy approximately 16 acres. A small amount of lawn and other low-quality vegetation would likely be cleared for the proposed development. The proposed sTate park would likely result in more, higher quality vegetation than that which currently exists. It is likely that vegetated areas would be managed so as to maintain the health of the vegetation and to keep invasive species under control.

Inland Wetlands

Potential impacts to inland wetlands associated with Alternative 3 would be the same as those discussed for Alternative 2.

Tidal Wetlands

Potential impacts to tidal wetlands associated with Alternative 3 would be the same as those discussed for Alternative 2.

Wildlife

Under Alternative 3, development of the vacant parcels would result in the displacement of several wildlife species that have adapted to life in an urban or near-urban environment. The displacement of these species would be more than offset by the development of a natural area in the 16-acre Fort Trumbull State Park.

Species of Special Concern

Potential impacts to species of special concern associated with Alternative 3 would be the same as those discussed for Alternative 2.

4.12.4 Alternative No. 4 – Business Campus

Potential impacts to fisheries resources, living marine resources, vegetation, inland wetlands, tidal wetlands, wildlife, and species of special concern associated with Alternative 4 would be the same as those discussed for Alternative 2.

4.12.5 Alternative No. 5 – Mixed Use 1

Potential impacts to fisheries resources, living marine resources, vegetation, inland wetlands, tidal wetlands, wildlife, and species of special concern associated with Alternative 5 would be the same as those discussed for Alternative 2.

4.12.6 Alternative No. 6 – Mixed Use 2

Potential impacts to fisheries resources, living marine resources, vegetation, inland wetlands, tidal wetlands, wildlife, and species of special concern associated with Alternative 6 would be the same as those discussed for Alternative 2.

4.13 Physical Environment Impacts

The physical environment of the project area includes topography, surficial geology, and bedrock geology. Potential impacts to the physical environment are common to all alternatives and are, therefore, evaluated together.

No dramatic changes are anticipated in topography in any of the alternatives. Localized regrading is probable on a site-by-site basis to accommodate future land uses. Placement of fill in flood prone areas may also be undertaken to raise base elevations or structures above the 100-year flood elevation. However, extreme modifications to area topography are not contemplated.

The general erodibility of soils which occur in the project area is low. However, site specific sedimentation and erosion controls will be required as part of any parcel development or redevelopment.

4.14 Air Quality Impacts

4.14.1 Short-Term Air Quality Impacts

Potential short-term air quality related impacts in the project area are common to all alternatives and are, therefore, evaluated together in the ensuing discussion. Historically, the area has been a core of industry, manufacturing, and shipyard traffic. Thus, potential short-term air quality degradation would be similar to or less than that experienced during the peak of industry in the area.

The primary short-term air quality concerns relate to construction and demolition activities and their potential to generate fugitive dust and mobile source emissions. Such sources of dust are attributed to construction vehicle disturbance during hauling, loading, dumping, and bulldozing on any areas cleared for the proposed development. Meteorological conditions and the intensity of the activities as well as soil moisture content also govern the extent to which particles will become airborne.

Although underlain by soils of a stony nature, much of the area has been filled and disturbed over the years. As a result, soils in the project area would tend to be composed of smaller particles and since the area is not well vegetated, wind erosion could become a source of mobilization of dust. Standard controls can be implemented to reduce the impact from such fugitive dust emissions as well as the effects of wind erosion. Proper phasing of construction can reduce the potential for impact by minimizing the length of time that soil remains exposed.

Additionally, use of water or wetting agents to control dust from exposed soil or gravel areas can further minimize airborne particulate matter, as well as periodic sweeping and daily rinsing of truck tires. This

can reduce the impact of off-site tracking of soil, which occurs when residual soil particles are displaced from construction sites onto higher traffic roadways and then become air and waterborne.

Furthermore, even well-maintained trucks and other construction equipment typically emit small amounts of pollutants, such as nitrogen oxides, sulfur oxides, and carbon monoxide related to internal combustion or diesel engines. Proper maintenance of portable generators, on-site machinery, and vehicles is, thus, important to reduce the potential for higher smoke emissions associated with improperly operating equipment.

Mitigation of short-term air quality impacts is described in Section 5.0 of this document.

4.14.2 Long-Term Air Quality Impacts

Long-term air quality impacts are primarily related to traffic and its associated air emissions. Vehicle emissions per mile of usage have been declining nationwide due to improved fuels, installation of pollution control devices, and the replacement of obsolete vehicles with newer models. As there will be additional traffic generated as a result of implementation of any of the identified alternatives (including the no action alternative), localized air quality impacts will also result. However, these are expected to be minimal and will not be regionally significant. It should be noted that the "no action" alternative (i.e. no MDP action) would result in the highest peak hour traffic, with no associated roadway improvement mitigation.

The fundamental goal in reducing long-term air quality degradation for this particular project is to provide improved flow of traffic in the general vicinity and major contributing arteries. Properly timed and

placed traffic signals and adequate sight distance at intersections and driveways, as well as appropriately sized traffic lanes to allow for passing and emergency stops, will reduce the length of time that vehicles are queued. Thus, vehicle emissions, which tend to be greater during idling and initial acceleration, can be minimized.

Encouragement of staggered work hours by larger employers in the project area can also help minimize the associated air quality impacts of high traffic volumes during peak commuting hours. Pfizer, Inc. currently practices this measure at their Groton facility and has indicated plans to do so at New London as well.

Additionally, the utilization of the local shuttle bus system and harbor shuttle, in conjunction with satellite parking areas, would also help minimize congestion in the core of the project area. Hence, some of the potential long-term impacts with respect to air quality have been addressed via the intended promotion of alternative modes of transportation, including biking and hiking. Thus, innate to the project is an underlying theme that has already identified urban air pollution concerns.

Air emissions from the Amtrak rail line are anticipated to be reduced by the year 2000, when electrification is expected to be operational. Electric trains are free from the emissions associated with diesel trains.

Air emissions from stationary sources will depend upon the exact type of buildings, equipment, and their uses. It can be assumed that new stationary sources will need to comply with current emission standards. Furthermore, the replacement of older equipment (i.e. furnaces, boilers, and the like) with new equipment

could reduce emission levels due to higher combustion efficiency, cleaner fuel, and treatment as needed.

4.15 Noise Impacts

4.15.1 Short-Term Impacts

Potential short-term noise related impacts in the project area are common to all alternatives and are, therefore, evaluated together in the ensuing discussion.

The primary short-term noise concerns relate to construction and demolition activities and their potential to generate unacceptable levels of noise from construction vehicles and equipment.

Several factors should be considered with respect to receptors. Construction activities would be limited to the daytime, when rush hour traffic and railroad noise are at higher levels. The additional traffic and construction related noise is anticipated to be minimal in this environment. Additionally, the surrounding land uses in the area are primarily commercial in nature.

4.15.2 Long-Term Impacts

The Amtrak railroad and local traffic in the project area are the predominant noise generators and would not likely change dramatically as a result of any of the proposed alternatives. No noise intensive land uses are proposed. Other loud short-duration noises related to the harbor (i.e. vessels, fog horns, etc.) will continue.

Traffic noise levels and acceptability are a function of vehicle counts, truck and bus counts, roadway grades, traffic speed, and stop/go traffic. Mitigation factors

include separation distances and the presence of barriers that attenuate noise levels. The existing railroad embankment is a very effective barrier, sheltering the existing neighborhoods from most of the project site. Therefore, no significant long term noise changes are anticipated.

There will be increases in off-site traffic levels, particularly along Howard Street and Bank Street as a result of the planned Pfizer facility as well as proposed uses within the Fort Trumbull MDP area. It is anticipated that increased traffic will create noise that will be consistent with an urban transportation hub. However, the geometric and lane improvements at intersections will minimize changes in noise from motor vehicles.

Although not part of this project, the conversion of the Amtrak railroad facilities to electric power will result in incidental noise reduction. Electric trains are lighter and run smoother than diesel trains under the same speed conditions.

Since they will not be travelling faster than current conditions, the noise levels associated with rail operations in the MDP area are not anticipated to increase. In areas outside of New London that will accommodate high speed travel, extensive noise and vibration monitoring programs have been undertaken by Amtrak. The Federal Railroad Administration requires that noise and vibration impacts be mitigated.

4.16 Solid Waste and Hazardous Materials Impacts

A discussion of the potential impacts of the six MDP alternatives relative to hazardous waste and environmental issues is presented below. In all cases, the primary impacts of the MDP project will stem from the following types of activities:

- Investigation and remediation of contaminated properties (drilling, excavation, asbestos sampling, etc.);
- Disposal of investigation and remediation related wastes (contaminated soil or ground water drill cuttings, monitoring well development water, etc.);
- Potential releases to the environment (air, water, land) during investigation, remediation, or demolition activities;
- Stabilization and disposal of residual waste materials left at or in properties (drums, piles, etc.); and
- Generation of hazardous wastes and/or storage of hazardous or petroleum products by the proposed new land uses in each alternative.

The potential impacts discussed for the alternatives do not differ significantly from each other except that as the proportion of residential and recreational land area increases, the degree of remediation required will increase proportionately, as the less restrictive industrial/commercial remediation standards cannot be utilized. This is particularly true on the northern portions of the NUWC parcel. Similarly, as the area dedicated to office/incubator and commercial space increases, so does the potential future generation of hazardous wastes and the use of chemical and petroleum products. Steps to mitigate the potential impacts are discussed in Section 5.0 of this document.

In the alternatives discussion, the various proposed land uses may require a greater degree of remediation if the intended use is to be residential (homes, condominiums, recreational areas, etc.) as opposed to industrial or commercial (offices, retail, industrial facilities, etc.). This two-tiered system is presented in

the Remediation Standard Regulations (RSR) in the evaluation of direct exposure risks. The RSR provides generally less restrictive remediation criteria which may be utilized in non-residential settings, provided certain land use restrictions and engineering controls ~~are~~ instituted.

The proposed MDP area includes the closed NUWC parcel, which occupies approximately 32 acres on the eastern side of the MDP area. Investigation and remediation of NUWC is being performed by the U.S. Navy under the Base Realignment and Closure (BRAC) process, independent of the MDP process. The BRAC clean-up at NUWC will be based on the Connecticut Remediation Standard Regulations (RSR) and the intended future uses of the NUWC parcel. Remediation of those areas of NUWC which will not be conveyed to the State of Connecticut (for a state park) or retained by the Navy and Coast Guard could require additional levels of remediation based on the future land use differences between the LRA's reuse plan and the alternatives proposed for the MDP.

In all cases, the need for and extent of site remediation will be governed by the relevant statutes and regulations as described in Section 2.15 of this document.

4.16.1 Alternative No. 1 – No Action

Alternative 1, the No Action alternative, presumes that the ~~status~~ quo of the MDP ~~area is~~ maintained. Under the no action alternative, investigation, remediation, and/or demolition/rehabilitation of properties would be performed in an inconsistent manner (if at all) and would be driven primarily by the potential sale of individual properties. To a lesser degree, existing regulations would require the investigation/

remediation of some of the properties within the MDP area. Underground storage tank regulations, for example, would require monitoring, upgrading and replacement of registered underground tanks as well as the investigation and remediation of any releases associated with those tanks.

Current waste generation and chemical/petroleum products usage within the MDP area would continue essentially unchanged until such time as future regulations may impact upon them. Also, as the MDP area presently contains a number of mixed uses, including industrial and high risk commercial uses, other high risk industrial or commercial activities (with their attendant waste generation and chemical/petroleum usage) could relocate into the MDP area in the future.

Under the No Action alternative, potential contamination sources would go mostly uninvestigated and subsequently unremediated, allowing contaminants (where present) to migrate into and through soil and ground water in the area.

Under the No Action alternative, the NUWC parcel would, be remediated in accordance with the LRA's reuse plan.

4.16.2 Alternative No. 2 – Recreation/Tourism

Under Alternative 2 – Recreation/Tourism, the area to the west of the Amtrak rail lines would be redeveloped into a mix of commercial, office, and light industrial usage. Many of the higher risk parcels are located in this area. Redevelopment under Alternative 2 in this area would allow the use of the higher industrial/commercial direct exposure standards, if appropriate land use restrictions and engineering controls are implemented. Areas east of the rail line are slated primarily for residential and recreational uses where

remediation to the generally more restrictive residential standards would be necessary, particularly in the northern portions of the NUWC parcel. These areas include the proposed locations for the hotel, recreation center, cultural/museum/active recreation area, the state park, and the riverwalk.

Under Alternative 2, the potential impacts would include those related to investigation, remediation, renovation and demolition, as well as the stabilization of residual wastes and the disposal of investigation and remediation related wastes.

The potential for future generation of wastes or use of chemical/petroleum products would be minimal and be limited to the office/incubator areas west of the rail line.

4.16.3 Alternative No. 3 – Residential Commercial

Under the Residential/Commercial alternative, the majority of the MDP area would be redeveloped into residential and recreational areas requiring remediation to the more restrictive standards. The Residential/Commercial alternative would require demolition of a majority of structures within the MDP area. The area devoted to office/incubator space and commercial development is comparatively small and, thus, the potential future generation of hazardous wastes and storage/use of chemical or petroleum products is reduced.

4.16.4 Alternative No. 4 – Business Campus

Under Alternative 4, the Business Campus concept, the residential and recreation dedicated areas would be minimized and the office/incubator areas would be greatly expanded, with the result that a significant

portion of the MDP area could utilize the less restrictive remediation standards. The expanded office/incubator and commercial acreage would result in a corresponding increase in the potential future generation of hazardous wastes and/or the use or storage of chemical and/or petroleum products.

4.16.5 Alternative No. 5 – Mixed Use 1

Alternative 5 combines office/incubator and commercial development west of the rail lines and a mix of residential and recreational space east of the rail lines. The expected impacts from Alternative 5 are essentially the same as for the east and west portions under Alternatives 3 and 4 discussed above.

4.16.6 Alternative No. 6 – Mixed Use 2

The impacts associated with Alternative 6 are essentially the same as those described in Alternative 5, with the primary difference being the relocation of the proposed residential areas outside of flood prone areas, with no proposed residential uses in the NUWC area. The residential uses are also clustered to minimize the area of coverage. The area immediately adjacent to the railroad is proposed for parking.

4.17 Cumulative Impacts

Cumulative impacts of the proposed MDP project and nearby activities are presented below by major category.

Parks and Recreation – There will be a cumulative positive impact on parks and recreation in the Fort Trumbull area due to the creation of the Fort Trumbull State Park, the proposed riverwalk, and other proposed uses such as open space, athletic fields, and

the like. The state park will provide recreational benefits to the residents of New London, without adding the burden of operation and maintenance. This facility will enhance the local park system and add a major destination to Thames River Heritage Park proposal, making it a viable waterfront destination. This also makes an inner harbor ferry shuttle more attractive and provides a broader context for the region.

The park and recreational elements of the Fort Trumbull MDP area will be enhanced by the proposed Bentley Creek tidal wetland restoration and educational area. In a broader context, the area will benefit from the downtown New London revitalization, with a major transportation hub, including the planned electrification of the Amtrak line, additional ferry services, and the recent investment in a major downtown parking facility.

Public Access – There will be a cumulative positive impact on public access based on the proposed state park, riverwalk, and other public access amenities described under the various alternatives. The adjacent Pfizer facility will also incorporate a public access component.

Traffic – The traffic analysis conducted for this project has taken into account various off-site traffic generators, including the proposed Pfizer facility, background traffic, and projected traffic volumes which allow for the expansion of existing 1998 traffic volumes by 1.0% per year compounded annually. The increased projected traffic volume will have a cumulative negative impact which requires mitigation. It is anticipated that roadway and intersection improvements will be necessary both on and off-site to address these cumulative impacts. Analysis and improvements are described in Sections 2.8, 3.2, and

4.9 of this document. It should be noted that cumulative traffic impacts would result even with the "no action" alternative. In fact, the no action alternative is the highest peak traffic generator.

Air Quality – Despite measures to reduce queue time and improve the traffic flow in the project area, cumulative traffic impacts will likely result in localized cumulative air impacts. However, impacts are expected to be minimal and will not be regionally significant. It should be noted that the "no action" alternative (i.e. no MDP action) would result in the highest peak hour traffic, with no associated roadway improvement mitigation.

Hazardous Materials – Cumulative positive impacts are projected with respect to hazardous and contaminated materials. The MDP project in combination with the planned Fort Trumbull State Park and the Pfizer development will result in extensive remediation of past contamination. The risk of introducing new hazardous or toxic materials as a result of proposed land uses and development is projected to be low.

Economic – Cumulative positive economic impacts are projected for the MDP area under any of the six alternatives in combination with the additional jobs and tax revenue which will result from Pfizer. Other cumulative factors include the downtown New London revitalization, the proposed expansion of Cross Sound Ferry Services, Inc., and the electrification of the Amtrak rail line.

Wetlands – Two areas of degraded wetlands have been identified, one near Bentley Creek and the second behind Howard Street. Pfizer is currently working with the Department of Environmental Protection's Office of Long Island Sound Programs in an effort to restore

the tidal wetlands at Bentley Creek. Additional mitigation potential exists in the degraded freshwater wetland behind Howard Street. Future development plans under Alternatives 2 through 6 will address this area. Therefore, it is anticipated that the MDP project, in combination with nearby projects, will have a cumulative positive impact on wetlands.

Aesthetics – Numerous aesthetic improvements are proposed as part of the MDP project and the adjacent Pfizer facility which will result in a positive cumulative impact. The former New London Mills brownfields site will be transformed into a global research facility. It is anticipated that the regional WPCF will undergo visual and odor improvements. Other aesthetic improvements are associated with the state park, riverwalk, and various alternative development plans.

Noise – A temporary increase in noise is anticipated during the construction phases of development due to heavy equipment, demolition, and the like. Various methods are described in Section 5.0 to mitigate this impact. Additional noise is also anticipated from a general increase in traffic in the area. A slight reduction in noise may be expected upon electrification of the Amtrak line. This will be somewhat offset by the projected increase in rail activity (six additional trips per day). Overall noise levels are not anticipated to be significantly different from historic levels in this area.

Marine Water Resources – There is potential for cumulative impacts in the establishment of new or refurbished marinas at Columbia Cove and South Cove near Bentley Creek. Any disturbance of marine water resources would likely be mitigated through specific project construction and operation components and improved public access to coastal resources.

Stormwater – The treatment of stormwater runoff prior to discharge would be a locally significant positive impact. It is likely that stormwater treatment would also be provided for projects located outside of the MDP area, based on new stormwater management requirements which were not in existence at the time when many of the existing uses were developed.

Cultural Resources – The MDP project will support and enable the restoration of a significant historic site at Fort Trumbull with great historic interest. Other areas of potential historic and archeologic sensitivity will be impacted by the contemplated work at the state park, MDP project activities, and the adjacent Pfizer site. All parties are working with the Connecticut Historic Commission to ensure that impacts are mitigated.

Flood Protection – Additional flood protection will be afforded as a result of the MDP project and other nearby activities. Existing flood prone areas and buildings will be raised by the placement of fill material or by new building construction which conforms to the relevant regulations and policies.

Neighborhood Relocation – Under most of the alternatives evaluated, a certain degree of displacement of residents and businesses will occur. Neighborhood relocation is limited to the MDP area, as there will be no relocation associated with nearby projects or planned activities. Mitigation measures related to neighborhood relocation are described in Section 5.0 of this document.

4.18 Unavoidable Adverse Environmental Impacts

Although a goal of this project has been environmental impact avoidance, minimization, and mitigation, certain adverse impacts are unavoidable. These are described below:

Short-Term Construction Related Impacts – All of the identified alternatives will have a construction aspect, where it is anticipated that building demolition and construction will take place. Mitigation measures have been identified with respect to associated short-term air and noise quality. However, a certain degree of additional truck and equipment use and access will be necessary during this time period which is unavoidable. Potential soil erosion and sedimentation impacts have also been identified. These will be largely mitigated through proper construction management techniques.

Long-Term Noise Impacts – Additional traffic may result in an increase of noise. Due to the nature of the source and its location, these impacts cannot be mitigated.

Neighborhood Relocation – With the exception of Alternative 1, a certain degree of relocation of residential dwellings and/or businesses will occur as a result of project implementation. Measures have been identified in Section 5.0 of this document to mitigate this impact.

Traffic – Increases in traffic will be largely mitigated through proposed roadway and intersection improvements. However, additional traffic will result.

Air – Increases in traffic, both by the MDP project and nearby planned projects, will result in an incremental cumulative impact on air quality. Impacts will be localized and will not be regionally significant.

Cultural Resources – All of the reuse alternatives may potentially have an adverse affect on sensitive cultural resources due to physical destruction and/or alteration of resources. Mitigation will be achieved as described in Section 5.0 of this document.

4.19 Irreversible and Irretrievable Commitment of Resources

The implementation of any of the six alternatives would consume nonrenewable resources during the construction and implementation (i.e., construction supplies, fuel, etc). Since these resources can not be reused, they are considered to be irreversibly and irretrievably committed. Similarly, disposal of demolition material at a landfill and/or solid waste disposal facility will take up capacity in such facilities which is irreversible and irretrievable.

Each of the development alternatives would require a certain level of public services such as fire and police protection. However, as described in Section 4.5, impacts to these services will be minimal.

4.20 Certificates, Permits, Approvals

4.20.1 Pertinent Regulations and Statutes

Table 4.20-1 presents some of the pertinent local, state, and federal regulations and statutes which may affect activities proposed in the MDP area.

TABLE 4.20-1
Pertinent Regulations and Statutes

Activity	Local	State	Federal
Freshwater Wetlands & Watercourses	CGS-21a-36 Planning & Zoning Commissions, Inland Wetlands and Watercourses	CGS-22a-36 CWA 401 WQC	CWA 404 Corps
Soil Erosion & Sed. Control	CGS-22a-329 CGS-22a-36	Construction Permit CWA-402 NPDES	SCS
Floodplains	CGS-22a-36	SCEL, CGS-22a-342 CGS-25-68b, Flood Management Certificate	FEMA
Stream flow Rates	CGS-22a-36 Planning & Zoning	Diversion Act CGS-22a-365 Stocked Streams CGS-26-141a CWA 401 WQC	
Discharges		CGS-22a-430 CWA Section 401 WQC	Clean Water Act 103 Dredge Spoil
Storm Drainage	Planning & Zoning CGS-22a-30	CGS-22a-365	CWA 402(P)
Navigable Waters	Harbor Management Plan	Structures & Dredging CGS-22a-359	Rivers & Harbor Act Section 10, Corps.

4.20.2 Tidal Wetlands and Structures, Dredging and Fill Permits

A permit or certificate of permission is required from the Department of Environmental Protection (DEP) Office of Long Island Sound Programs (CGS Section 22a-361 or 22a-363b) for any work or construction activity within tidal, coastal, or navigable waters (those waterward of the high tide line). Permit application review is based upon an assessment of adverse impacts and includes determination of consistency with coastal policies.

Additionally, any development activities for which permits or certifications are issued and which would impact the coastal area must be determined to be consistent with CCMA requirements. Hence, it may be necessary to obtain permits for the proposed activities on the existing piers at NUWC and other waterfront areas.

4.20.3 Stormwater Construction General Permits

Section 402 of the Federal Water Pollution Control Act regulates discharges to waterbodies and watercourses. EPA has delegated jurisdiction to the Connecticut DEP. Stormwater discharges from construction sites where five or more acres are to be disturbed require a permit pursuant to 40 CFR 122.26. The DEP Bureau of Water Management has issued a general permit that covers these discharges. Registration describing the site and the construction activity must be submitted to DEP at least 15 days prior to the initiation of construction. A stormwater pollution prevention plan, including measures for erosion and sediment controls and post-construction stormwater management, must be prepared.

DEP general stormwater permits for construction activities in tidal areas specify post construction management requirements, including retention (i.e. infiltration) of the first inch of runoff from the site. If retention not possible, detention may be required. The general permit also requires 80% total suspended solids removal and velocity dissipation. These elements will be factored into the Municipal Development Planning process and project design.

4.20.4 Army Corps of Engineers Permits

The U.S. Army Corps of Engineers (ACOE) regulates federally defined wetlands and rivers below the ordinary high water mark under Section 404 of the Clean Water Act.

Section 10 of the Rivers and Harbors Act of 1899 assigned the Corps of Engineers to regulate structures and work in navigable waters, which includes the Thames River. A Section 404 permit is required when wetlands or waterways are filled. Regulated activities include dredging, disposal of dredged materials, excavation, filling, boat ramps, breakwaters, jetties, wharves, permanent moorings, piles, navigation aids, drainage discharge pipes, and the like.

It is probable that future development of Columbia Cove with a public or private marina, and the proposed water-related commercial area along Bentley Creek, will include federally regulated activities.

The Section 10 and Section 404 permit process includes referrals to other federal agencies including the U.S. Fish and Wildlife Service and National Marine Fisheries. These permits also require a 401 Water Quality Certificate from the Department of Environmental Protection.

Disposal of dredge spoils is also regulated by the U.S. Army Corps of Engineers' Section 103 permit program. This could affect the use of Columbia Cove or South Cove sites if dredging and off-shore disposal were sought.

4.20.5 401 Water Quality Certificate

Any applicant for a federal license or permit; including a Section 404 dredge and fill permit from the U.S. Army Corps of Engineers, a bridge construction permit from the U.S. Coast Guard, or a permit from the Federal Energy Regulatory Commission (FERC); must obtain a 401 Water Quality Certificate from DEP if the proposed activity will result in any discharge into the navigable waters. Such discharges include, among other things, the discharge of dredged and fill material, stormwater during construction, incidental discharge of sediments from dredging or excavating, the discharge of stormwater from a facility once it is constructed, and any excavation, land clearing, and grading in or affecting the navigable waters.

This program, administered by the DEP Bureau of Water Management's Inland Water Resources Division and the Office of Long Island Sound Programs, regulates any applicant for a federal license or permit who seeks to conduct an activity which may result in any discharge into the navigable waters, including all wetlands, watercourses, and natural and man-made ponds. Such persons must obtain certification from DEP that the discharge is consistent with the federal Clean Water Act and the Connecticut Water Quality Standards. Any conditions contained in a water quality certification become conditions of the federal permit or license.

The Connecticut Department of Environmental Protection has issued a Water Quality Certificate for Corps of Engineers Section 404 Category I activities and some Category II activities, provided that certain conditions are met.

4.20.6 Flood Management Compliance Certification

Sections 25-68b through h of the Connecticut General Statutes authorizes the Connecticut Department of Environmental Protection to regulate proposed state activities in floodplains including any grant or loan which affects land use or land use planning in floodplains, plus the placement of fill or erection of structures in floodplains. The DEP Commissioner also regulates actions by state agencies affecting floodplains.

Section 25-68d states that "(a) No state agency shall undertake an activity or a critical activity within or affecting the floodplain without first obtaining approval from the commissioner of a certification submitted in accordance with subsection (b) or exemption by the commissioner from such approval in accordance with subsection (d)."

Any state agency proposing an activity within or affecting the floodplain must certify it does not:

- obstruct flood flows;
- result in adverse increase in flood elevations;
- cause an adverse increase in flood velocities; or
- pose a hazard to human life, health or property.

and that it does:

- comply with National Flood Insurance Program;
- comply with floodplain zoning; and
- promote long-term non-intensive floodplain uses.

A key requirement is to promote long-term non-intensive floodplain uses, or conversely to avoid intensive floodplain uses. DEP representatives have identified intensive floodplain uses as including:

- residential uses in the floodplain, even if raised with fill material or elevated structurally;
- conversion of non-residential uses to residential;
- any increase in the square footage of commercial or industrial uses.

For residential uses, Connecticut uses a stricter standard than FEMA, requiring the lowest enclosed floor to be one foot above the 500-year frequency flood.

4.20.7 STCApproval/ConnDOTPermits/Approvals

Development projects, new developments or expansion of existing developments, with 200 or more parking spaces or 100,000 gross square feet of building floor area require submittal to the Connecticut State Traffic Commission (STC) for a Certificate of Operation as a Major Traffic Generator. This process, whether or not the development abuts a state highway, is required prior to commencement of construction. Upon review of submitted documents, the STC may issue a Certificate of Operation for the project or require further improvement strategies to mitigate impacts. For the proposed MDP area, documentation must be submitted as a major traffic generator.

This project will also require a permit from the City of New London to construct improvements on city streets. A state right-of-way encroachment permit is required for any off-site modification of state highways.

4.20.8 Amtrak Railroad Permits

Any work which occurs in the railroad right-of-way or directly along the rail line would require approvals and/or permits from Amtrak. Most notably, any proposed modifications to the underpasses, such as roadway realignment or structural modifications, would need to be coordinated with, and approved by Amtrak.

4.20.9 Discharge Permits

The Connecticut Department of Environmental Protection regulates discharges of water or other substances pursuant to Connecticut General Statutes Section 22a-430(a) into the waters of the state, including rivers and wetlands. The federal/state National Pollutant Discharge Elimination System (NPDES) program regulates the discharge of sewage, industrial process waters, and storm drainage. A DEP discharge permit is also required for sanitary sewage discharges of over 50,000 gpd to a publicly owned treatment facility.

4.20.10 Local Inland Wetland Permits

Any work in inland wetlands will require a permit from the City of New London. The project area is highly developed and contains many areas that are underlain by artificial fill. A small ephemeral watercourse is located on a vacant parcel located between Howard Street and Shaw Street in the Gateway Area. The watercourse is approximately six feet wide and conveys stormwater approximately 350 feet from a corrugated metal pipe that inlets at its eastern end to a corrugated metal pipe that outlets at its western end. Based on investigations by a certified soil scientist and wetland biologist, minimal areas of regulated wetland occur in this area.

Although this wetland and watercourse are of poor functional quality, any work which is conducted in this area (including any restoration) would likely require a local wetlands permit. Individual projects within the MDP area would require wetland delineation and survey.

4.20.11 Coastal Consistency Site Plan Review

Section 22a-90 to 113 requires projects within coastal boundaries to be consistent with the goals and policies of the Connecticut Coastal Management Act. A local coastal consistency site plan review will be required since this project lies within the regulated coastal boundary. The Connecticut Coastal Management Act authorizes local jurisdiction from mean high water to the coastal zone boundary. The entire MDP area lies within the coastal zone.

4.20.12 Other Likely Permits/Approvals

Other local, state, and federal permits may be required, depending upon the exact nature of proposed work, including local planning and zoning permits and City Council approvals.

5.0 MITIGATION OPPORTUNITIES

5.1 Overview

Throughout the environmental impact evaluation, attempts have been made to avoid impacts. In instances where impact avoidance was not possible, mitigation measures have been sought. An underlying theme throughout each proposed alternative is improvement to the overall community and the environmental, cultural, and economic health of both New London and the Southeastern Connecticut Region. Hence, innate

to this project is the goal of providing mitigation for past uses and neglect as well as the historic lack of public access to regionally significant resources.

5.2 Land Use Mitigation Opportunities

The Fort Trumbull area has been targeted for renewal and revitalization for many years. The current zoning reflects the historic planning philosophy of the city. Inconsistencies between current land uses and land classifications in the *Conservation and Development Policies Plan for Connecticut* are also noted. The MDP is a tool to correlate land uses with long adopted policies and zoning. Accordingly, in an effort to mitigate these past inconsistencies, zoning for the project area will be updated through the MDP process.

5.3 Socioeconomic Mitigation Opportunities

The general intent and effect of the proposed alternatives would improve the socioeconomic climate in the project area. Taking into account job losses, any of the six alternatives would provide positive growth to the region's economy via short-term construction employment, permanent employment opportunities, and taxable property revenues. There would also be a net gain in spin-off activity outside of the area via the execution of any of the identified alternatives. Positive socioeconomic growth in the MDP area may be characterized as mitigation. No other mitigation opportunities have been identified.

5.4 Neighborhood/Housing Mitigation Opportunities

Various modes of mitigation are available for displaced individuals, families, and businesses. The

following discussion describes the relocation assistance process (i.e., mitigation) which will be implemented for any displacees in the Fort Trumbull MDP area.

Individuals and families who are displaced as a result of this project will be provided assistance in accordance with the Uniform Relocation Assistance Act (Chapter 135 Connecticut General Statutes). The purpose of this Act is to establish a uniform policy for the fair and equitable treatment of all persons displaced by state and local real property acquisition projects. Any individual, family, or business displaced by this project will be offered relocation assistance services for the purpose of locating a suitable replacement property. Relocation services will be provided by qualified personnel employed by the city.

The purpose of relocation services and assistance is to provide displaced households with an orderly, timely, and efficient move, and to keep them informed of services and payments that are available. Relocation services and assistance will be administered by the New London Development Corporation (NLDC) through a relocation consultant. A relocation counselor representing the NLDC is assigned to assist all displaced households in finding a suitable replacement dwelling.

The relocation counselor will personally interview displacees to:

- determine their needs and preferences;
- explain relocation benefits;
- offer assistance;
- assure the availability of a functionally equivalent property in advance of displacement;
- provide current listings of functionally equivalent properties;

- supply information on other federal and state programs offering assistance to displacees;
- offer transportation, if necessary;
- provide the amount of the replacement housing payment in writing;
- inspect dwellings for decent, safe and sanitary acceptability; and
- provide counseling to minimize hardships.

No relocation payment received will be considered as income or resources for the purpose of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any persons for assistance under the Social Security Act or any other federal law. Further, no relocation payment received will be considered income or resources under state law per Section 8-277.

Displaced persons will be notified at the initiation of negotiations as to the prospective date when their property will be acquired. They will be given adequate time and assistance in finding a suitable space to occupy. No person lawfully occupying property will be required to move without at least 90 days written notice. However, persons who have not located replacement property by the time the building is scheduled for demolition may be required to move to a temporary location. Temporary moves are discouraged. NLDC will pay the cost of temporary moves, and efforts will continue to find a suitable permanent location. No one will be required to move before he or she has been given an opportunity to obtain replacement property, except under the following conditions:

- failure to pay rent;
- maintenance of a nuisance or use of the premises for illegal purposes;
- materially breaching rental contract;

- refusal to consider accommodations meeting relocation standards;
- refusal to admit a member of the relocation office staff; or
- maintenance of a situation requiring eviction under state or city law.

The relocation office staff is available to assist all displaced businesses to ensure that they are provided an orderly, timely, and efficient move. Displaced businesses are encouraged to call or visit the relocation office whenever there are questions or problems relative to their move.

The Uniform Act provides that a person may file a written appeal to the agency if the person believes that the agency has failed to properly determine the person's eligibility for, or the amount of a payment authorized by the Act.

If an individual qualifies as a displaced person, he or she is entitled to payment for actual reasonable moving costs and certain related expenses incurred in moving. The methods of moving and the various types of moving cost payments are explained below.

Displaced individuals and families may choose to be paid on the basis of actual, reasonable moving costs and related expenses, or according to a fixed moving cost schedule based on the number of furnished rooms in the dwelling. Payment may be made for actual reasonable moving costs and related expenses when the move is performed by a commercial mover. Reimbursement will be limited to a 50-mile distance. Related expenses may include:

- packing and unpacking personal property;
- disconnecting and reconnecting household appliances;

- temporary storage of personal property; or
- insurance while property is in storage or transit.

A replacement dwelling must be decent, safe, and sanitary, meeting all of the minimum requirements established by state regulations and conforming to applicable housing and occupancy codes, and should be functionally equivalent to the present dwelling. While not necessarily identical to the present dwelling, the replacement should:

- have similar number of rooms and living space;
- be located in an area not subject to unreasonable adverse environmental conditions;
- generally not be less desirable than the present location with respect to public utilities and commercial and public facilities;
- be located on a site that is typical in size for residential development with normal improvements;
- be reasonably accessible to place of employment; and
- be currently available and within an individual's financial means.

There are two basic length of occupancy requirements which determine the type of replacement housing payment. Length of occupancy simply means counting the number of days that an individual actually occupied a dwelling before the date of initiation of negotiations by the acquiring agency for the purchase of the property. The term "initiation of negotiations" means the date the acquiring agency makes the first personal contact with the owner of real property, or his representative, to give a written offer for the property to be acquired.

The type of payment depends on whether the displacee is an owner or a tenant, and how long they have lived in the property being acquired prior to

negotiations. Rental assistance is available for owner-occupants and tenants of 90 days or more. Down payment assistance is available for owner-occupants of 90 to 179 days and tenants of 90 days or more. Purchase supplement is available for owner-occupants of 180 days or more.

Rental assistance payment is designed to enable rental of a functionally equivalent decent, safe, and sanitary replacement dwelling for a 48-month period. If the displacee chooses to rent a replacement dwelling and the rental payments are higher than what they have been paying, they may be eligible for a rental assistance payment up to $4,000.

Owner-occupants of 90 days to 179 days and tenant-occupants of 90 days or more may be eligible for a down payment and incidental assistance payment not to exceed $4,000. The maximum down payment and incidental assistance payment for which they may be entitled would be equal to that amount eligible had the individual rented a comparable replacement dwelling, or the actual amount needed for down payment and incidental costs, whichever is less.

Incidental expenses include the reasonable costs of a title search, recording fees, attorney's fees, and certain other related closing costs, but do not include expenses such as real estate taxes and property insurance. The combined amount of the down payment and incidental expenses cannot exceed the maximum payment of $4,000.

If an owner has occupied their home for 180 days or more immediately prior to the initiation of negotiations for the acquisition of their property, they may be eligible, in addition to the fair market value of your property, for a supplemental payment not to exceed

$15,000 for all costs necessary to purchase a functionally equivalent decent, safe, and sanitary (DSS) replacement dwelling. The replacement dwelling must be purchased and occupied within one year of the date of receipt of final payment. If the property is acquired by eminent domain, a DSS replacement dwelling must be purchased and occupied within one year of the date the full amount of the purchase offer is deposited with the court for the property or the date of offer of a functionally equivalent replacement housing, whichever is later.

The purchase supplement includes:

Price Differential – The price differential is the amount by which the estimated acquisition price of a replacement dwelling exceeds the acquisition costs of the displacement dwelling. The price differential payment and the following payments are in addition to the acquisition price paid for the current property.

Increased Mortgage Interest Costs – Reimbursement may be made for increased mortgage interest costs if the interest rate on the new mortgage exceeds that of the present mortgage. To be eligible, the acquired dwelling must have been encumbered by a bona fide mortgage which was a valid lien for at least 180 days prior to the initiation of negotiations.

Incidental Expenses – Reimbursed may also be made for other expenses such as reasonable costs incurred for title search, recording fees, and certain other closing costs, but not including prepaid expenses such as real estate taxes and property insurance.

The total amount of the purchase supplement cannot exceed $15,000 according to the law.

Specific to the Fort Trumbull MDP project, an additional $10.5 million will be available for relocation assistance. Ten million dollars will be in the form of Connecticut Housing Finance Authority (CHFA) low rate financing loan money. Two hundred and fifty thousand dollars will be available in the form of down payment assistance to residents and an additional $250,000 will be available through Small Business Assistance Program relocation funding.

5.5 Community Facilities and Services Mitigation Opportunities

No significant negative impacts have been identified with respect to community facilities and services. The proposed state park and other recreation areas, such as the riverwalk and museums, will have positive impacts and can be considered forms of mitigation for the historic lack of public access to regionally unique natural and cultural resources. No other mitigation opportunities have been identified.

5.6 Aesthetic/Visual Resource Mitigation Opportunities

A number of enhancements to visual aspects of the project area have been proposed which include improved views of the Thames River via maintained open space and the riverwalk, as well as aesthetic improvements to the WPCF and the proposed Fort Trumbull State Park. No other mitigation opportunities have been identified.

5.7 Public Utilities and Services Mitigation Opportunities

Utility improvements and upgrades will be performed in the project area for all action alternatives, as well as to the WPCF. These modifications will constitute mitigation for the proposed changes to the MDP area and as a capital improvement for the City of New London. The following lists proposed improvements:

1. Under Alternatives 2 through 6, the layout of the water distribution system infrastructure will be modified and upgraded to accommodate new or modified street alignments.

2. An interconnection will be provided with the City of New London for the state park to accommodate a separate private water system under several master meters at the perimeter of the park. The Coast Guard and the Naval facilities will also be provided water from the New London water system via easements across the state park or in a relocated street.

3. As necessary, new sanitary sewers will be constructed along any relocated road/driveway alignments.

4. The existing storm drainage system will be modified to accommodate any new roadway alignments and to correct deficiencies in the existing system. Stormwater quality renovation elements, such as inlet chambers (Vortechnics or Stormceptors) and/or infiltration systems will be incorporated as necessary to meet stormwater general permit requirements.

5. Pipe design will utilize conventional engineering for storm sewer systems, thereby providing pipes

sizes that are proportionally larger under the more intensive land uses.

5.8 Cultural Resources Mitigation Opportunities

5.8.1 Archeological Review Process

Archeological sites may contain information concerning the history and lives of earlier occupants of the Fort Trumbull area. The Connecticut Historical Commission has indicated that archeological investigations should be conducted to recover any existing archeological and cultural resources from areas that will be disturbed by future development. However, archeological investigations should not prevent future development of the project area.

The Connecticut Historical Commission (CHC) has defined the archeological review process in its *Environmental Review Primer for Connecticut's Archeological Resources* (Poirier 1987). The process generally includes four stages of investigation for site identification, evaluation of significance, and site mitigation These stages of investigation are the archeological assessment survey (Phase 1a), reconnaissance survey (Phase 1b), intensive-level survey (Phase 2), and data recovery (Phase 3). At each stage of investigation, options can be explored for preserving archeological sites.

Archeological assessment surveys (Phase 1a) have been conducted for the Fort Trumbull MDP area (Reeve, Keegan and Keegan 1998, TAMS 1998). Assessment surveys involved documentary investigations and sensitivity modeling in order to evaluate whether prehistoric and/or historic period archeological sites are possible or likely in the project area. A detailed summary of this work is presented in Section 2.7 of this document.

Archeological reconnaissance surveys (Phase 1b) are often conducted in sensitive areas to identify whether prehistoric and/or historic period archeological sites are present or absent. Archeological reconnaissance surveys usually employ rapid and cost-effective shovel test excavations at broad intervals, or backhoe trenching to investigate stratigraphic patterns or disturbances, and to identify whether artifacts and/or architectural features are present that reflect various periods of human occupation. Due to the need for excavation and possible use of heavy equipment, reconnaissance surveys can only be conducted after property access is procured. These surveys can be staged over periods of time if necessary.

If no archeological sites are identified during the reconnaissance survey, CHC does not usually recommend additional investigations. When archeological sites are identified, numerous options exist for future development. The sensitive areas can be preserved as open space; they can be integrated into passive use activities; or additional archeological investigations can be conducted to evaluate whether the site or sites are significant.

Intensive-level surveys (Phase 2) are often conducted at archeological sites that cannot be preserved in development plans. The objective of intensive surveys is to identify whether sites are significant (e.g., meet eligibility standards for the National Register of Historic Places). Intensive surveys usually involve sampling designs oriented to identify architectural features and associated artifact assemblages such as systematic excavations (one meter squares). Field work, artifact analyses, specialized analyses (floral, faunal, radiometric dating, etc.), and report preparations are often involved in Phase 2 archeological surveys.

Most sites are not significant due to documented prior disturbances or lack of preserved feature and/or artifact contexts. Intensive surveys often provide adequate samples for many sites. Usually CHC does not recommend additional investigation for sites that are not National Register eligible. If significant features and artifact assemblages are present, sites can be preserved or removed through data recovery (Phase 3) mitigation.

Data recovery (Phase 3) excavations usually investigate the best preserved portions of archeological sites. As with other stages of archeology, data recovery is a systematic process. Architectural and soil features are sampled or fully excavated, and structures or architectural features are exposed and documented, often with the help of machine grading. Field work, artifact analyses, specialized analyses (floral, faunal, radiometric dating, etc.), and report preparations are often involved in Phase 3 archeological surveys. In most instances, data recovery removes significant archeological sites, and the CHC does not recommend additional investigation.

Other forms of mitigation include documentation of demolished structures and their settings through preparation of written descriptions and histories, photo-documentation and photo essays, educational information, and the like.

5.8.2 Proposed Site-Specific Mitigation

Archaeologically Sensitive Areas

Archeological reconnaissance surveys (Phase 1b) will be conducted to identify the presence or absence of preserved archeological sites in the MDP area. Phase 1 b surveys will be conducted in representative areas which have been identified as having moderate to

highly archeological sensitivity (see Figures 2.7-2, 2.7-3, and 2.7-4) where ground disturbance would result from implementation of the MDP, following its adoption.

A specific testing design will be devised for identifying areas of least soil disturbances, and greatest possibilities for preserved artifact assemblages and features in order to identify significant historic and prehistoric archeological sites. As part of this analysis, the reconnaissance survey will specifically investigate the archaeological visibility and integrity of the former Fort Trumbull Glass Company factory and the A. Bragan Ship Yard.

Archeological reconnaissance surveys (Phase 1b) for historic archeological sites will also involve additional research into the historic contexts of specific properties. Historic research will include title searches, tax assessments, and census information about ethnicity and occupations of former residents.

If archeological sites are identified in Phase 1b and cannot be preserved, Phase 2 archeological surveys will be conducted to evaluate the significance of identified archeological sites. At each stage of investigation, options will be explored for preserving archeological sites. If archeological sites are demonstrated to be highly significant (i.e., National Register eligible) and cannot be preserved, then data recovery (Phase 3) excavations will likely be undertaken to remove and analyze archeological remains. These future efforts and decision-making processes will be fully coordinated with the Connecticut Historical Commission. CHC will have input during the MDP approval process. Implementation conditions may also be specified in the MDP approval.

Based on a review of the archaeological assessment survey and the administrative draft of this DEIE, the CHC has indicated that the archeological assessment conducted for the Fort Trumbull MDP area is consistent with the *Environmental Review Primer for Connecticut's Archaeological Resources*. Further, CHC concurred with the archaeological sensitivity determinations as presented herein.

CHC has recommended that reconnaissance surveys be conducted as described above with respect to those areas of moderate to high archaeological sensitivity in order to identify, evaluate, and professionally consider archaeological resources.

Structural Sensitivity

Numerous mitigative recommendations have been made by CHC in an October 13, 1998 letter to the Department of the Navy regarding documentation, interpretation, and preservation of structures at the NUWC property. Only two buildings in the future development area are specifically referenced in these recommendations. These are . . . Building 34 (Bowditch Hall) and Building 14. Documentation of Bowditch Hall was recommended. Additionally, preservation covenants were recommended for Bowditch Hall and Building 14 within the future development area to require consultation with the State Historic Preservation Office prior to any proposed alteration, including demolition, that would be inconsistent with the National Park Service's *Standards for Rehabilitation*. A complete copy of CHC correspondence is included herein as Appendix F.

The State Historic Preservation Office has also recommended that additional historic and architectural evaluation be professionally undertaken with respect

to those military-related structures identified on the 1919 map of Fort Trumbull and the adjacent neighborhood that are outside the present NUWC property. These include structures south of Trumbull Street (Map 21, Block 68, Lot 15) and west of 16 East Street (Map 21, Block 105, Lot 8). Accordingly, this analysis will be conducted in consultation with CHC.

5.9 Traffic and Parking Mitigation Opportunities

The implementation of any of the alternatives, including the No Action alternative, will result in significant impacts to traffic and transportation at numerous intersections. However, these impacts can be mitigated. Roadway improvements are proposed as described in Section 3.0 of this document. These improvements will offset the traffic impacts projected in Section 4.0.

5.10 Water Resources Mitigation Opportunities

The most significant water resource mitigation opportunity in the MDP area is upgrading the stormwater drainage system. These improvements are described in Sections 4.7 and 5.7 of this document.

Improvements adjacent to the project area at Bentley Creek are being accomplished by Pfizer, Inc. as part of their development project. No other water resource mitigation opportunities have been identified.

5.11 Flood Hazard Mitigation Opportunities

The following mitigation measures are proposed for flood hazard areas:

1. New developments will be planned and designed in conformance with FEMA standards and requirements.

2. A flood emergency response/evaluation program will be developed for the proposed project. It will include identification of a responsible agency, flood hazard monitoring, warning and/or alert systems, posted evacuation routes, shelters, and provisions for special assistance to residents and businesses.

3. The reported sea level rise trend in New London is 0.0086 feet per year, equal to about one inch per decade (NOAA). Consequently, it may be prudent to design new long-term development projects in coastal areas to accommodate sea level rise. All critical facilities must be designed for the FEMA base flood. An additional one-foot "factor of safety" for sea level rise may be contemplated.

4. Buildings will be designed such that priority will be given to locating low intensity uses on the first floor.

5. Floodproofing of areas not currently floodproofed will be evaluated.

6. Flooding improvements at the two railroad underpasses will be evaluated.

5.12 Biological Environment Mitigation Opportunities

No major impacts to the biological environment are anticipated. However, there is potential for mitigation at the planned state park, as well as creation of additional open space. The clean-up efforts described under Section 5.16 may also improve biological habitat.

The small ephemeral watercourse located on the vacant parcel between Howard Street and Shaw Street is situated in a depressed channel with steep banks of fill material. Minimal areas of regulated wetland soils have been identified in this area, with minimal functional value other than to convey stormwater. The density of development in the identified alternatives is such that direct impact can be avoided. Given the low quality of this wetland, the potential exists to partially restore it during future development.

Recognizing that the Fort Trumbull area is intensely developed, with little in the way of biological resources, there may be an opportunity in the design phase to improve existing conditions by developing planting plans and landscaping designs which create habitat. This could include the planting of "habitat islands" or hedgerows vegetated with native plant species that encourage use by wildlife.

5.13 Physical Environment Mitigation Opportunities

There are no anticipated significant impacts to the physical environment in the project area and no mitigation opportunities have been identified.

5.14 Air Quality Mitigation Opportunities

5.14.1 Short-Term Impact Mitigation Measures

Several controls are proposed for minimizing short-term impacts to air quality from fugitive dust and other pollutant emissions. The following mitigation measures have been identified for reducing the length of time in which soils are exposed, off-site tracking, and vehicle and equipment emissions:

1. Construction will be properly phased to minimize the length of time which soils are exposed before

final materials are placed and landscaping is completed;

2. Water or wetting agents will be used on exposed soil or gravel areas.
3. Periodic sweeping of construction sites and driveways will be performed.
4. Truck tires and equipment leaving the construction site will be periodically cleaned.
5. Portable generators, on-site machinery, and vehicles will be properly maintained.

5.14.2 Long-Term Impact Mitigation Measures

The following mitigation measures have been identified for improving the flow of traffic and minimizing potential long-term impacts to air quality:

1. Traffic signals will be properly timed and placed.
2. Intersections and driveways will be engineered to provide adequate and safe stopping and sight distance.
3. Traffic lanes will be appropriately sized to allow for passing and emergency stops.
4. Larger employers in the project area will be encouraged to stagger work hour shifts outside of peak commuting hours.
5. Employers will be encouraged to provide on-site amenities such as automatic teller machines, dry cleaning services, cafeterias, and the like, to eliminate lunch hour errands by employees which result in additional car trips. Pfizer has indicated that these types of services will be provided on-site. There is also potential for these type of facilities in the hotel/conference center

which is proposed in several of the land use alternatives.

6. Alternative modes of transportation, such as bus and ferry shuttle, will be promoted.

5.15 Noise Mitigation Opportunities

5.15.1 Short-Term Impact Mitigation Measures

Construction activities will be limited to the daytime, when rush hour traffic and railroad noise are at higher levels, in an effort to minimize short-term impacts of increased noise levels and disturbance.

5.15.2 Long-Term Impact Mitigation Measures

No significant impacts to long-term noise levels have been identified. As part of the MDP design, buffering in the form of trees, parking, berming and other aesthetic treatments will be evaluated for reduction of noise from local traffic and from the railroad.

5.16 Solid Waste/Hazardous Materials Mitigation Opportunities

The MDP area will be investigated and remediated in accordance with state and federal regulations. Investigation/remediation factors and future land use factors are discussed below.

Under the MDP action alternatives, many of the existing buildings will be razed. Prior to demolition, the requisite pre-demolition building surveys for lead paint and asbestos will be performed and identified hazards mitigated. Each area where potential subsurface (soil/groundwater) contamination is identified will be investigated and remediated in accordance with the Connecticut Remediation Standard

Regulations (RSR) and in accordance with the intended land use(s).

5.16.1 Investigation/Remediation Factors

During investigation and remediation of projects within the MDP area, the following techniques will be utilized to mitigate potential releases of contaminants:

1. Wherever possible and practicable, non-intrusive/non-invasive techniques will be utilized. Such techniques as x-ray fluorescence will be used to perform lead paint surveys instead of destructive sampling methods. Presumption will be made that certain obvious asbestos-containing materials contain asbestos, rather than performing destructive sampling.
2. Established investigation and sampling protocols will be followed which minimize the potential for releases.
3. All investigation related wastes (drill cuttings, well development water, etc.) will be containerized as appropriate, so that waste characterization and handling-disposal can be appropriately performed.
4. Physical barriers will be used during remediation activities (siltation fencing, negative air pressure enclosures, etc.).
5. Investigations will be performed in a phased manner to better anticipate potentially hazardous conditions (i.e., perform a soil gas survey to define likely hot spots prior to more invasive drilling techniques).

6. Adequate waste characterization will be performed on any residual waste materials identified at properties within the MDP area to define potential hazards and allow proper handling/disposal.
7. Pre-demolition abatement will be performed of environmental hazards such as asbestos, lead paint (if necessary), fuel oil tanks, and the like, to eliminate potential releases.
8. Only properly trained personnel with appropriate experience and medical clearances will be utilized.
9. Field screening instruments will be utilized to identify potential hazards and utilize necessary personal protective equipment as indicated, based on the identified level of hazard.
10. Wastes will be pretreated prior to discharge from potential remedial systems including off-gas treatment from soil vapor extraction systems and treatment of recovered ground water from remedial or dewatering systems.

5.16.2 Future Land Use Factors

As presently defined, the various land uses outlined in the action alternatives do not specifically enumerate processes and operations which may indicate the generation, use, or storage of hazardous wastes or materials or chemical or petroleum products. In general, instituting the use of best management practices (BMP's) for various future land uses in the MDP area will serve to mitigate the effects of the impacts future development from environmental concerns. Typical BMP's include such items as: requiring secondary containment around all tanks, drums or other product/waste containers to eliminate spill potential.

6.0 CONSULTATION AND COORDINATION

6.1 Scoping

At the onset of the MDP process, a series of scoping meetings took place with various regulatory agencies and interested parties. Only those scoping meetings that have taken place following initiation of the CEPA process are described herein.

A scoping meeting took place with Navy representatives at the NUWC property on June 19, 1998. In addition to NUWC and Navy personnel and their consultants, NLDC and its consultants, New London planning staff, DECD, and DEP were represented at this meeting.

A formal scoping meeting was held at the offices of DECD at 505 Hudson Street in Hartford, Connecticut on June 22, 1998. The State Departments of Economic and Community Development, Transportation, Environmental Protection and the Office of Policy and Management were represented at this meeting.

Informal scoping sessions have also taken place via telephone, email, and written correspondence. A great deal of coordination has taken place with the Connecticut Historical Commission, the Department of Environmental Protection, the City of New London, and Pfizer, Inc.

6.2 Consultation and Coordination with Agencies/ Organizations

General presentations on the project and planning process have been made to the New London City Council, the Redevelopment Agency, Water Pollution Control Authority, and Planning and Zoning. Progress reports were made to the City Council at each of its bimonthly meetings since May of 1998. Project

reports and updates were also provided at publicly noticed meetings of the New London Development Corporation.

Project coordination meetings have taken place on an almost weekly basis, primarily attended by NLDC and its consultants. Other individuals and agencies have been routinely invited to these meetings for pertinent discussion topics and workshops. Included in this representation has been City of New London planning staff, DECD, DEP, CHC, Pfizer and its consultants, and others.

6.3 Public Outreach

A strong public outreach program has been implemented in association with this project from the onset. Pre-dating the CEPA process, NLDC began holding monthly neighborhood meetings with area residents, businesses, and other interested parties. A combination of notice techniques were utilized which varied from meeting to meeting. These techniques included newspaper advertisements, mailings to area residents and property owners, and public announcements at City Council meetings. Newspaper reporters covered the majority of these meetings. Table 6.3-1 presents a summary of meeting dates and agendas.

TABLE 6.3-1
Summary of Neighborhood Meetings

Date	Main Speakers	General Topics Covered
April 27, 1998	Dr. Claire Gaudiani, NLDC President James Mahoney, NLDC Executive Director Richard Collier, Wallace Roberts and Todd Jane Stahl, DEP Assistant Commissioner Rita Zangari, DECD Deputy Commissioner Joseph Desautel, The Downes Group	Project Background and Philosophy Introduction of Consultants Planning Overview Plans for Fort Trumball State Park State Support for Pfizer Explanation of the MDP process
May 18, 1998	Dr. Claire Gaudiani, NLDC President Tom Bowen, City New London James Mahoney, NLDC Executive Director	Introduction Wastewater Treatment Facility Report Project Update
June 15, 1998	James Mahoney, NLDC President Reid Burdick, New London City Councilor Philip Michalowski, HMA, Inc. Richard Collier, Wallace Roberts and Todd	Introduction Neighborhood Coffees Neighborhood Relocation Process Preliminary Land use Concepts
July 22, 1998	James Mahoney, NLDC President Marguerite Wilbur, The Downes Group Jeanine Bonin, Milone & MacBroom, Inc. Jack Shanahan, CHC	Property Acquisition Update Municipal Development Plan Process Environmental Conditions Inventory State Historic Evaluation Process
September 2, 1998	James Mahoney, NLDC President Chip Fitsmorris, Pfizer, Inc. Mark Samse, CuH$_2$A, Pfizer Consultant Jeanine Bonin, Milone & MacBroom, Inc.	Introduction Pfizer Project Update CEPA Process/Existing Conditions Inventory
October 1, 1998	James Mahoney, NLDC President Robert Flannagan, Flannagan Associates Richard Collier, Wallace Roberts and Todd Jeanine Bonin, Milone & MacBroom, Inc.	Property Acquisition Update The Appraisal Process Land Use Alternatives Environmental Conditions/EIE Update

A period of public comment, questions, and answers was provided during each of these meetings

6.4 Public Review

Formal notice of the existence of this document has been published in area newspapers and in the Connecticut Law Journal. A period of no less than 45 days will be provided for notice, distribution, and review of the Draft Environmental Impact Evaluation by any interested parties. Upon receiving comment, DECD will review comments, perform any additional environmental study and analysis, and amend the evaluation as appropriate.

Upon completion of the 45 day public comment period, the sponsoring agency (in this case the Department of Economic and Community Development) must forward the following information to the Office of Policy and Management, for determination of the adequacy of the evaluation: (1) all public notice documentation; (2) a brief summary of the public hearing, if one is held, (3) comments received from all interested parties; (4) the agency decision relative to proceeding with the proposed action; and (5) a discussion of the intentions for initiation of actions for minimizing impacts. This constitutes the Record of Decision (final EIE document and the measures for mitigation identified therein).

The CEPA process concludes with the review of the EIE and Record of Decision by OPM and their determination of whether or not regulatory requirements have been satisfied. The final EIE is the basis for the implementation of the project. A Municipal Development Plan is then created consistent with the findings of the CEPA process. A mandatory public hearing is held upon completion of the MDP. Procedures for the adoption of the MDP are set forth in Section 32-224(c) of the Connecticut General Statutes. This process must include a finding by the OPM that the plan is not inimical to the overall goals and objectives of

the state. Upon obtaining such a finding, the plan would then be legally adopted by the city and approved by DECD.

7.0 DOCUMENT PREPARERS

The following individuals, agencies, and organizations have contributed to this document.

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Professional Service Group

APPENDIX A

Environmental Assessment

STATE OF CONNECTICUT DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT INFRASTRUCTURE AND REAL ESTATE PROJECTS

ENVIRONMENTAL ASSESSMENT

Date: June 30, 1998 **Staff Contact**: Peter Simmons

Municipality: New London

Project: New London Waterfront Redevelopment

Funding Source: Multiple **State Funds**: $

State Agency Review Stage 1 X **Stage 2** __

Project Description: Redevelopment of the New London waterfront area in the vicinity of the former Naval Underwater Warfare Center (NUWC), Pequot Avenue, the New London Waste Water Treatment Plant, and Fort Trumbull. The project area is approximately 75 acres in size and includes a residential area of 68 properties, which are accessed primarily by Trumbull Street and Walbach Street. The project is anticipated to be developed in several phases: A) Aesthetic and operational upgrades to the WWTP, B) Conversion of the Fort Trumbull site into a State Recreational/Historic Park, C) reuse/redevelopment of the former NUWC site and upland areas as a mixed use with a potential research & development/business park.

Project Activities:

Proposed DECD Activities: 1) Acquisition and relocation of the residents and businesses in the Fort Trumbull peninsula project area. 2) Demolition of the existing structures.

3) Reconstruction of the roadway and utility infrastructure, to serve the project area. 4) Environmental site assessments and remediation of contaminated properties identified during the project-planning phase, 5) potential future investment in private business locations and expansions.

Proposed DEP Activities: 1) development of Fort Trumbull as a State Park. This project may be subject to a separate DEP CEPA review, 2) loan to the City for WWTP improvements.

This environmental assessment is conducted in accord with the agency's Environmental Classification Document.

RCSA sec. 22a-1a-3 Determination of environmental significance (direct/indirect)

1) *Impact on air and water quality or on ambient noise levels*
   a) *Air* – N/A
   b) *Water Quality* – Storm water discharges from the site will need a DEP permit and mechanical water quality devices will likely be required as part of the storm water management system.
   c) *Noise – N/A*
2) *Impact on a public water supply system or serious effects on groundwater, flooding, erosion, or sedimentation*
   a) *Water Supply* – DEP notes that the New London municipal water supply is marginally meeting the current demand. System improvements are needed to increase the systems capacity. The New London water supply is experiencing drought-like conditions – reservoirs are at 38%

capacity. Other water supplies in the area are not experiencing supply problems of this nature. DPH is reviewing the situation. The city's water supply plan update (5 year) is due to be submitted during April 1998. The City has submitted an application for a water diversion permit to the DEP to develop the Hunts Brook diversion to increase the water supply. DEP also identified the replacement of the Great Swamp pump station as a possible action, which could increase the available volume of potable water in the city system. The project demands on the water supply system will need to be evaluated.

b) *Groundwater* – The area is within a GB-Class area.

c) *Flooding* – Portions of the project area are within the 100-year floodzone. DECD stormwater management certification will be needed to comply with the Floodplain Management Act (25-68 CGS). New construction will be required to comply with proper flood management standards. Portions of the access and egress are within the flood zone; therefore, a flood management plan with evacuation measures is warranted.

3) *Effect on natural land resources and formations, including coastal and inland wetlands, and the maintenance of in-stream flows* – The area is subject to the Connecticut Coastal Management Act. The act requires that coastal sites be developed for water dependent uses. The US Navy and Coast Guard will occupy a portion of the NUWC site and use the dock and wharf presently within the project area. City of New London coastal site plan review is necessary. A tidal wetland area is south of the site along Bentley Creek. No mapped tidal wetlands are within the project area. The DEP general permit for stormwater

discharges within 500 feet of a tidal wetland will require the stormwater system to retain the volume of run-off generated by 1 inch of rainfall. This condition will apply if unmapped tidal wetland vegetation is present within the project area.

4) *Disruption or alteration of an historic, archeological, cultural or recreational building, object, district, site or surroundings* – conversion of Fort Trumbull into a State Park will preserve the historic site and ensure public access to this cultural resource. The properties identified for acquisition will need to be assessed for historic significance. Coordination with SHIPO has been initiated and will continue throughout development process through DECD.

5) *Effect on natural communities and upon critical species of animal or plant and their habitats: interference with the movement of any resident or migratory fish or wildlife species* – The Natural Diversity Database does not record the presence of threatened or endangered species in the project area. An on-site survey will be conducted. The project activities will not disturb the Thames River habitat area adjacent to the peninsula and will be coordinated through the CAM process.

6) *Use of pesticides, toxic or hazardous materials or any other substance* in *such quantities as to create extensive detrimental environmental impact* – N/A

7) *Substantial aesthetic or visual effects* – The project will improve the aesthetics and operation of the WWTP. Open space will be developed adjacent to Fort Trumbull. The specific reuse plans for the buildings of the former NUWC has not been identified. The US Navy and Coast Guard will maintain some presence on the Former NUWC property. The inland residential and commercial properties are proposed

to be acquired and redeveloped as a research & development and office area. All site development will be managed through a comprehensive plan to assure long-term maintenance of these aesthetic improvements.

8) *Inconsistency with the written and/or mapped policies of the statewide Plan of Conservation and Development and such other plans and policies developed or coordinated by the Office of Policy and Management or other agency* – The project area is classified by the C & D Plan as a Regional Center. Some areas within the project area are designated for Conservation due to tidal and coastal flooding. The proposed development is consistent with the state's development priorities.

9) *Disruption or division of an established community or inconsistency with adopted municipal or regional plans* – The proposed waterfront development will cause the acquisition, relocation and demolition of approximately 68 residential properties in the Trumbull Street and Walbach Street area. This area is proposed for possible reuse as research and development and related economic development activities to be complimentary to the former NUWC site. Relocations will be addressed through a plan and process in conformance with the Uniform Relocation Assistance Act (URAA).

10) *Displacement or addition of substantial numbers of people* – see above comment

11) *Substantial increase in congestion (traffic, recreational, other)* – The existing roadway system historically served both the New London Mills operation and the NUWC operation (peak employment of about 5000) north of the NLM site. *The May 1994 CONNDOT Arterial/Freeway System Study* reports that 0.9

miles of Route 1 and 1.4 miles of Route 213 in New London are approaching capacity. Portions of Routes 213, 1 and 85 may be at service levels above capacity by 2020 if the anticipated growth of the city meets expectations. A traffic study will be needed to determine the need for a generator permit from the State Traffic Commission.

12) *A substantial increase in the type or rate of energy use as a direct or indirect result of the action* – no negative impacts are anticipated due to future state of the art design practices.

13) *The creation of a hazard to human health or safety* – N/A

14) *Any other substantial impact on natural, cultural, recreational or scenic resources* – N/A

Conclusion:

1. The acquisition of residential properties and the relocation of the residents may be an impact to the community. The relocation assistance would conform to the Uniform Relocation Assistance Act (URA) provisions.

2. DPH reports that the adequacy of the water supply needs to be evaluated for this project development. The cumulative impact should be evaluated considering other development projects underway in the city.

3. The proposed Fort Trumbull State Park is a DEP responsibility and may be reviewed through a separate CEPA process. The reuse of this historic property as a state park is consistent with state objectives.

4. WWTP improvements are a DEP responsibility. Non-hydraulic improvements to the WWTP may not require CEPA review (per DEP)

5. The project conforms to the Statewide Plan of Conservation and Development. The development will comply with the appropriate CCMA requirements.

6. Traffic improvements necessary to safely provide access and egress to the site will be subject to STC approval. Improvements required to the state transportation system will be conditioned to the generator permit.

7. The historic/archeological resources will be evaluated and documented/salvaged. Project activities will be fully coordinated with SHPO.

8. Environmental investigations and remedial action of contamination are exempt from CEPA review. Recommendation: The preparation of an Environmental Impact Evaluation for the waterfront project is prudent to measure the impacts, and to develop the proper scope for the proposed improvements. The state CEPA should be fully coordinated with the US Navy NEPA document being prepared for the NUWC site and with the Fort Trumbull State Park CEPA. A joint DECD/DEP document on the waterfront development should be considered.

APPENDIX B
Housing Availability

EXHIBIT 1

City of New London Inventory of Multi-Family Housing 1996

NAME	LOCATION	DATE BUILT	UNITS	PUBLICLY ASSISTED
Rogers	33 Granite Street	1855	16	
Crocker House	166 State Street	1872	96	
Hilltop	156 Garfield	1875	24	
Highland Arms	43 Granite Street	1920	31	
Bateswoods	Boulder Drive	1946	160	State-assisted (F)
Briarcliff	Colman Street	1951	142	State-assisted (F)
Londonberry Gardens	220 Third Avenue	1954	86	Other (F)
Nautilus Arms	177 Nautilus Drive	1960	39	
Harbor Housing	292 Pequot Avenue	1961	65	
Ocean Reef	54 Nob Hill Road	1962	163	
84 Pequot Avenue		1962	42	
335 Broad	335 Broad Street	1964	15	
Gorden Court	Gorden Court	1964	38	State-assisted (E)
Riozzi Court	Riozzi Court	1964	42	State-assisted (E)
264 Hempstead		1964	21	
Farmington Arms	70 Farmington Avenue	1964	36	
Heritage House	64 Dell Avenue	1965	60	
Winthrop High Rise	Crystal Avenue	1965	127	Federally-assisted (F)
Hawthorne Hill	15 Hawthorne Drive	1967	136	
280 Gardner		1967	24	
63 Niles Hill Rd		1968	18	
Niles Hill Commons	113 Niles Hill Road	1968	34	
Winthrop Square	59 Federal Street	1970	314	Other (F)
Whalers Point	159 Hawthorne Drive	1970	246	
Parkside West	283 Willetts Avenue	1970	137	

Sandpiper Dunes	Nautilus Drive	1970	254	
Williams Park	127 Hempstead Street	1970	100	Federally-assisted (E)
Castle Hill	307 Crystal Avenue	1971	96	
Garfield Avenue	149 Garfield Avenue	1972	38	
Parkside South	116 Viets Street	1972	40	
G.W. Carver	202 Colman Street	1972	130	State-assisted (E)
Bristol Arms	14 Bristol Street	1972	21	
Squire One	11 Anthony Road	1974	171	
Jefferson Gardens	Michael Road	1974	204	Other (F)
Gull Harbor	83 Mansfield	1975	102	
281 Gardner		1976	66	
206 Pequot Avenue		1978	16	
Mohican	281 State Street	1981	146	Other (E)
Huntington Towers	149 Huntington Street	1983	144	Other (E)
85 Niles Hill Rd		1985	14	
Oceanside	611 Ocean Avenue	1987	71	
Candlewood	453 Bayonet Street	1990	23	

(F) Family (E) Elderly

Source: City of New London Plan of Conservation and Development, 1997; City of New London Consolidated Plan for Housing and Community Development.

EXHIBIT 2

Rental Housing Availability

Date	City	Type	Rent	Heat/Hot Water Incl.	Electricity Included	Security Deposit	Pets	Amenities
11	Groton	1 & 2 BR						Apartment Complex/Near Base
18	Groton	1 & 2 BR						Carpet/AC/Dish/Near EB & PF
18	Groton	1 & 2 BR						Apartment Complex/Near EB & PF
25	Groton	1 & 2 BR		Y				Apartment Complex
25	Groton	1 & 2 BR	$ 585					Apartment Complex
2	Groton	1 & 2 BR	585+					Apartment Complex
11	Groton	1 BR						Parking
25	Groton	1 BR					N	Parking
2	Groton	1 BR					N	Parking
11	Groton	1 BR	$ 595	Y	Y		N	
11	Groton	1 BR	$ 585	Y	N			AC/Dish/Carpet/Near EB & PF
11	Groton	1 BR	$ 550	N	N		N	Parking/Near base
11	Groton	1 BR	$ 550	N	N			Storage/Parking/Lease
11	Groton	1 BR	$ 525	Y	N			Apartment Complex
18	Groton	1 BR	$ 595	Y	Y		N	
18	Groton	1 BR	$ 560	Y				Near EB & PF
18	Groton	1 BR	$ 500	N	N			Garage
18	Groton	1 BR	$ 450	N	N	Y	N	
25	Groton	1 BR	$ 595	Y	Y		N	
25	Groton	1 BR	$ 650					Yard
25	Groton	1 BR	$ 560	Y				Near EB & PF
25	Groton	1 BR	$ 500	N	N			Garage
25	Groton	1 BR	$ 450			Y	N	
2	Groton	1 BR	$ 595	Y	Y		N	
2	Groton	1 BR	$ 575					WD/Near EB & PF
Average 1 BR Rental Groton			**$ 552**	**Fair Market Rents New London-Norwich 1 BR: $594**				
Median 1 BR Rental Groton			**$ 560**		**Above = 5**	**Below = 11**		
11	Groton	1,2,&3 BR		Y	N			Apartment Complex
11	Groton	1,2,&3 BR		Y				Apartment Complex
11	Groton	1,2,&3 BR						Apartment Complex/W&D/AC
18	Groton	1,2,&3 BR						Apartment Complex
18	Groton	1,2,&3 BR		Y			Y	Apartment Complex/Near EB & PF
25	Groton	1,2,&3 BR						Apartment Complex
25	Groton	1,2,&3 BR	525+					Apartment Complex
2	Groton	1,2,&3 BR						Apartment Complex/WD/ Fireplace
18	Groton	1,2,3 BR & T	$ 695					Apartment Complex
11	Groton	2 BR		Y	N			AC/Dish/Carpet/Near EB & PF
11	Groton	2 BR						Parking/Carpet/near Base/ Hookups
11	Groton	2 BR						Apartment Complex

11	Groton	2 BR						Townhouse/Garage/Storage
18	Groton	2 BR						Apartment Complex
18	Groton	2 BR		Y			N	Waterview
25	Groton	2 BR						Apartment Complex
2	Groton	2 BR						Apartment Complex
11	Groton	2 BR	$ 525	N	N			Parking
11	Groton	2 BR	$ 600	N	N	Y	N	
11	Groton	2 BR	$ 585	Y	Y			Carpet/Storage
11	Groton	2 BR	$ 765			Y	N	Townhouse/HW floors/Basement
18	Groton	2 BR	$ 540	Y				
18	Groton	2 BR	$ 585	Y				Apartment Complex
18	Groton	2 BR	$ 500					Hookups
18	Groton	2 BR	$ 765			Y		Townhouse/Basement/HW Floors
18	Groton	2 BR	$ 650	N	N			Parking/Yard/Near EB & PF
18	Groton	2 BR	$ 725				N	Garage/Carpet
2	Groton	2 BR	$ 585	Y				Apartment Complex
2	Groton	2 BR	$ 725				N	Garage/Hookups
Average 2 BR Rental Groton			**$ 629**	**Fair Market Rents New London-Norwich 2 BR: $723**				
Median 2 BR Rental Groton			**$ 593**		**Above = 4**	**Below = 12**		
25	Groton	2 BR T	$ 765			Y		HW Floors/Basement
25	Groton	2 BR T						Apartment Complex
2	Groton	2 BR T						Apartment Complex
18	Groton	3 BR	$ 750	N	N			
25	Groton	3 BR	$ 750	N	N			
2	Groton	3 BR					N	Attic/Storage/Parking
2	Groton	3 BR					N	Hookups
11	Groton	S,1 & 2 BR	$535+	Y	N			Apartment Complex/Near EB PF
18	Groton	S,1 & 2 BR						Apartment Complex
25	Groton	S,1 & 2 BR						Apartment Complex
2	Groton	S,1 & 2 BR						Apartment Complex
11	Groton	Studio	$ 499			N		
2	Groton		$ 650					
11	New London	1 & 2 BR						Townhouses/Basement/Carpet/ Deck
18	New London	1 & 2 BR T						Apartment Complex
11	New London	1 BR						Apartment Complex
11	New London	1 BR	$515+					Apartment Complex
18	New London	1 BR		Y	Y			Furnished/Cable
18	New London	1 BR						
18	New London	1 BR						Apartment Complex
18	New London	1 BR	515+					Apartment Complex
18	New London	1 BR						Apartment Complex
25	New London	1 BR	515+					
2	New London	1 BR		Y	Y			Carpet
2	New London	1 BR						Apartment Complex
18	New London	1 BR		Y				Appliances/Carpet
18	New London	1 BR						
11	New London	1 BR						Apartment Complex
11	New London	1 BR	$ 525	Y	N		N	Furn./Beachfront/No smoking

11	New London	1 BR	$ 480	Y	N		N	Furn.
11	New London	1 BR	$ 600	Y	Y			Furn/Cable/Near Hospital
11	New London	1 BR	$ 450				N	
11	New London	1 BR	$ 425	Y			N	Parking
11	New London	1 BR	$ 495	Y				
11	New London	1 BR	$ 400					Parking
11	New London	1 BR	$ 375					
11	New London	1 BR	$ 500				Y	
11	New London	1 BR	$ 640	Y	Y			
11	New London	1 BR	$ 525	Y	Y			
11	New London	1 BR	$ 575	Y				Appliances
11	New London	1 BR	$ 500	Y				
11	New London	1 BR	$ 700	N	N			Skylight/WD/Garage
11	New London	1 BR	$ 525	Y				Ceilings/Windows/HW Floors
18	New London	1 BR	$ 480	Y		Y		Furnished
18	New London	1 BR	$ 400			Y	N	
18	New London	1 BR	$ 415					Parking
18	New London	1 BR	$ 525					Fireplace
18	New London	1 BR	$ 425				N	
18	New London	1 BR	$ 595	Y				
18	New London	1 BR	$ 450					
18	New London	1 BR	$ 400					Parking
18	New London	1 BR	$ 495	Y	Y			
18	New London	1 BR	$ 450	N	N			Porch/Hookups/Yard/Parking
18	New London	1 BR	$ 580	N	N			Ceiling/Skylight/Yard
18	New London	1 BR	$ 600	Y				
18	New London	1 BR	$ 525	Y	Y	Y		
18	New London	1 BR	$ 525	Y	Y			
18	New London	1 BR	$ 640	Y	Y			View
18	New London	1 BR	$ 540					Near CGA
18	New London	1 BR	$ 525	Y				
18	New London	1 BR	$ 525	Y				Parking/Appliances/Storage/ Laundry
25	New London	1 BR	$ 480	Y				Furnished
25	New London	1 BR	$ 525	Y				Carpet/Appliances/Laundry Parking
2	New London	1 BR	$ 480	Y				Furnished
2	New London	1 BR	$ 475	Y	Y			
2	New London	1 BR	$ 425					
2	New London	1 BR	$ 495	N	N			HW Floors/Yard
2	New London	1 BR	$ 425			Y	N	
2	New London	1 BR	$ 575				N	Carpet/Appliances
2	New London	1 BR	$ 500	Y	Y			Porch HW Floors
2	New London	1 BR	$ 375	Y		Y		
2	New London	1 BR	$ 450	N	N		N	Carpet/Appliances
2	New London	1 BR	$ 550					Parking Appliances
2	New London	1 BR	$ 675	Y	Y			Fireplace
2	New London	1 BR	$ 525	Y	Y		N	
2	New London	1 BR	$ 390			Y		
2	New London	1 BR	$ 550	Y	Y			
2	New London	1 BR	$ 500				Y	Carpet

2	New London	1 BR	$ 495	Y	Y			
2	New London	1 BR	$ 525	Y				Carpet/Parking/Appliances Laundry
Average 1 BR Rental New London			**$ 504**	**Fair Market Rents New London-Norwich 1 BR: $594**				
Median 1 BR Rental New London			**$ 500**		**Above = 7**	**Below = 24**		
11	New London	2 BR	$ 625	N	N	Y		Fireplace/Parking
11	New London	2 BR	$ 450	N	N			Parking/Fireplace/Laundry
11	New London	2 BR	$ 550	N	N		N	
11	New London	2 BR	$ 575	N	N			Parking
11	New London	2 BR	$ 650	N	N			
11	New London	2 BR	$ 695	Y	Y			
11	New London	2 BR	$ 900					2 Bath/Pool/Laundry
11	New London	2 BR	$ 550	Y				
11	New London	2 BR	$ 535	N	N			
11	New London	2 BR	$ 700					Porch/Storage
11	New London	2 BR	$ 625	Y				Apartment Complex
11	New London	2 BR	$ 625	N	N			Basement/HW Floors
18	New London	2 BR	$ 625			Y		Fireplace/Parking
18	New London	2 BR	$ 525	N	N		N	
18	New London	2 BR	$ 550	N	N			
18	New London	2 BR	$ 550	Y	Y	Y		Porch/Balcony/
18	New London	2 BR	$ 825					
18	New London	2 BR	$ 625	Y				HW Floors/Laundry/Yard
18	New London	2 BR	$ 525	Y				Hookups/Storage
18	New London	2 BR	$ 625					Apartment Complex
18	New London	2 BR	$ 550	Y				
18	New London	2 BR	$ 695	Y	Y			View
18	New London	2 BR	$ 700	N	N			Porch/Hookups/Storage
18	New London	2 BR	$ 425	N	N			
18	New London	2 BR	$ 425	N	N			
18	New London	2 BR	$ 625	Y	Y			Apartment Complex
18	New London	2 BR	$ 525	N	N			Apartment Complex
25	New London	2 BR	$ 625	Y	Y			
25	New London	2 BR	$ 525	Y	Y			
2	New London	2 BR	$ 550			Y		
2	New London	2 BR	$ 595	Y	Y			
2	New London	2 BR	$ 575	N	N		N	Hookups
2	New London	2 BR	$ 625					Fireplace/Parking
2	New London	2 BR	$ 585	N	N		N	
2	New London	2 BR	$ 500					Garage
2	New London	2 BR	$ 525	N	N			
2	New London	2 BR	$ 650					Garage
2	New London	2 BR	$ 550	Y				
2	New London	2 BR	$ 625					
2	New London	2 BR	$ 625	Y	Y			
2	New London	2 BR	$ 450					
2	New London	2 BR	$ 625	Y	Y			

2	New London	2 BR	$ 525					
2	New London	2 BR	$ 550					No Pets
Average 2 BR Rental New London			**$ 589**	**Fair Market Rents New London-Norwich 2 BR: $723**				
Median 2 BR Rental New London			**$ 575**		**Above = 1**	**Below = 42**		
2	New London	3 BR		Y				
2	New London	2/3 BR						
11	New London	3 BR	$ 715	N	N			
11	New London	3 BR	$ 525	N	N			
18	New London	3 BR	$ 575				N	Parking
18	New London	3 BR	$ 850					Parking/Attic/WD
18	New London	3 BR	$ 750	N	N		N	Basement/Attic/Yard/Parking
18	New London	3 BR	$ 650					
25	New London	3 BR	$ 595	Y	Y			Furnished/AC
2	New London	3 BR	$ 750	Y	Y			
2	New London	3 BR	$ 595	N	N			
2	New London	3 BR	$ 650				N	HW Floors/No Smokers
2	New London	3 BR	$ 840					WD/Attic
2	New London	3 BR	$ 700				N	Parking
Average 3 BR Rental New London			**$ 683**	**Fair Market Rents New London-Norwich 3 BR: $905**				
Median 3 BR Rental New London			**$ 675**		**Above = 0**	**Below = 12**		
18	New London	4 BR	$ 600	N	N			
18	New London	4 BR	$ 600	N	N			
2	New London	4 Rooms	$ 500	N	N			
11	New London	Efficiency	$ 600	N	N			Furn.
11	New London	Efficiency	$ 300			N		
18	New London	Efficiency	$ 600	Y	Y			Furnished
18	New London	Efficiency	$ 395				N	Furnished/Parking
25	New London	Efficiency	$ 600	N	N			Furnished
25	New London	Efficiency						Furnished
2	New London	Efficiency	$ 600	Y	Y			Furnished
2	New London	Efficiency	$ 425					
2	New London	Efficiency	$ 425	N	N			
18	New London	S & 1 BR						
2	New London	S & 1 BR						Apartment Complex
11	New London	S,1,2,&3 BR	550+	Y				Apartment Complex
18	New London	S,1,2,&3 BR	550+					Apartment Complex
2	New London	S,1,2,&3 BR	550+		—			Apartment Complex/Near EB & PF
11	New London	Studio		Y	Y			Furn.
11	New London	Studio	$ 475	Y	N			
11	New London	Studio	$ 300			Y		
11	New London	Studio						Apartment Complex
11	New London	Studio	$ 450				Y	

18	New London	Studio		Y	Y			Furnished
18	New London	Studio	$ 475	Y				
18	New London	Studio	$ 300			Y		
18	New London	Studio	$ 460	Y	Y			
18	New London	Studio	$ 475	Y	Y			
2	New London	Studio	$ 460	Y	Y			
18	New London		$ 500			Y		
25	New London		$ 500			Y		Furnished
2	New London		$ 500			Y		
11	Waterford	1 BR	$ 675				N	Beachfront
11	Waterford	1 BR	$ 595					
18	Waterford	1 BR	$ 540					
18	Waterford	1 BR	$ 595					
25	Waterford	1 BR	$ 540					
2	Waterford	1 BR	$ 550	Y			N	
2	Waterford	1 BR	$ 550	Y				
11	Waterford	2 BR	$ 600	N	N			
11	Waterford	2 BR	$ 695					
18	Waterford	2 BR	$ 695					
25	Waterford	2 BR	$ 595					
25	Waterford	2 BR	$ 695					
2	Waterford	2 BR	$ 525					Furnished
25	Waterford	Studio						Furnished

EXHIBIT 3

Ownership Housing Availability

Active Residential Listings Under $100,000
City of New London

PROPERTY DESCRIPTION	LIST PRICE
SINGLE FAMILY HOMES	
5 Bedroom, 2 Bath	$39,000
3 Bedroom, 1 Bath	$45,000
3 Bedroom, 1 1/2 Bath	$49,900
3 Bedroom, 1 Bath	$49,900
3 Bedroom, 2 Bath	$53,900
3 Bedroom, 1 Bath	$56,000
2 Bedroom, 1 Bath	$57,000
1 Bedroom, 1 Bath	$58,900
3 Bedroom, 2 Bath	$59,900
2 Bedroom, 1 1/2 Bath	$62,900
3 Bedroom, 2 Bath	$62,900
2 Bedroom, 1 Bath	$69,000
2 Bedroom, 1 Bath	$69,000
3 Bedroom, 1 Bath	$69,900
1 Bedroom, 1 Bath	$69,900
2 Bedroom, 1 Bath	$69,900
3 Bedroom, 1 Bath	$69,900
2 Bedroom, 1 Bath	$69,900
3 Bedroom, 1 1/2 Bath	$69,900
3 Bedroom, 1 Bath	$71,900
3 Bedroom, 1 Bath	$71,900
3 Bedroom, 2 Bath	$72,500
6 Bedroom, 1 Bath	$75,000
3 Bedroom, 1 1/2 Bath	$75,000
2 Bedroom, 1 Bath	$75,900
3 Bedroom, 1 1/2 Bath	$76,000
2 Bedroom, 1 1/2 Bath	$76,900
3 Bedroom, 1 Bath	$78,000
3 Bedroom, 1 Bath	$78,700
3 Bedroom, 2 Bath	$78,900

4 Bedroom, 2 Bath	$79,900
3 Bedroom, 1 Bath	$79,900
4 Bedroom, 1 1/2 Bath	$79,900
3 Bedroom, 1 Bath	$79,900
3 Bedroom, 1 Bath	$80,000
5 Bedroom, 1 Bath	$80,000
2 Bedroom, 1 Bath	$80,999
3 Bedroom, 1 1/2 Bath	$82,900
4 Bedroom, 1 Bath	$84,000
3 Bedroom, 1 Bath	$84.900
3 Bedroom, 1 1/2 Bath	$87,000
[Illegible] room, 2 Bath	$88,500
4 Bedroom, 1 Bath	$89,000
4 Bedroom, 2 Bath	$89,000
3 Bedroom, 1 1/2 Bath	$89,000
4 Bedroom, 1 1/2 Bath	$89,000
3 Bedroom, 1 Bath	$89,500
3 Bedroom, 1 1/2 Bath	$89,900
3 Bedroom, 1 Bath	$91,000
4 Bedroom, 1 1/2 Bath	$92,000
3 Bedroom, 2 Bath	$92,900
3 Bedroom, 1 1/2 Bath	$93,000
2 Bedroom, 1 Bath	$94,000
2 Bedroom, 2 Bath	$94,900
3 Bedroom, 1 Bath	$95,000
3 Bedroom, 1 Bath	$99,900
2 Bedroom, 1 Bath	$99,900
3 Bedroom, 1 1/2 Bath	$99,900
CONDOMINIUMS	
3 Bedroom, 1 1/2 Bath	$39,900
[Illegible] Bedroom, 1 Bath	$39,900
[Illegible] Bedroom, 1 Bath	$46,900
2 Bedroom, 1 1/2 Bath	$48,900
3 Bedroom, 1 1/2 Bath	$49,000
2 Bedroom, 1 Bath	$49,900
2 Bedroom, 1 Bath	$49,900
2 Bedroom, 1 Bath	$51,000

Residential Listings Between $100,000 and $150,000
City of New London

PROPERTY DESCRIPTION	LIST PRICE
SINGLE FAMILY HOMES	
3 Bedroom, 1 1/2 Bath	$102,900
3 Bedroom, 2 Bath	$105,000
4 Bedroom, 2 Bath	$109,900
3 Bedroom, 2 1/2 Bath	$109,900
[Illegible] room, 1 1/2 Bath	$109,900
[Illegible] Bedroom, 2 Bath	$109,900
4 Bedroom, 2 Bath	$110,000
3 Bedroom, 1 Bath	$112,000
4 Bedroom, 1 1/2 Bath	$112,000
3 Bedroom, 1 Bath	$112,000
5 Bedroom, 1 1/2 Bath	$114,900
3 Bedroom, 2 Bath	$114,900
2 Bedroom, 1 Bath	$115,000
2 Bedroom, 1 Bath	$115,000
3 Bedroom, 2 Bath	$116,000
3 Bedroom, 2 Bath	$117,500
3 Bedroom, 1 Bath	$119,000
3 Bedroom, 1 1/2 Bath	$119,900
4 Bedroom, 1 1/2 Bath	$123,900
3 Bedroom, 1 1/2 Bath	$124,900
3 Bedroom, 1 1/2 Bath	$134,900
4 Bedroom, 2 Bath	$137,000
3 Bedroom, 2 Bath	$141,500
3 Bedroom, 2 Bath	$144,900
4 Bedroom, 2 Bath	$145,000

Source: Southeastern Connecticut Online REALTOR Multiple Listing Servic

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APPENDIX C
Listing of Properties within the MDP Area

Appendix Table A-1: BUILDINGS AT NAVAL UNDERSEA WARFARE CENTER (NUWC)

	Name	Use	GBA (SF)	Year	Remarks	Frame	Hgt.	Condition	Reuse Pot.	W/I Historic Dist.
Coast Guard										
45	Ueph E1/E4	Off/Shop/Res	14-537	1938	Coast Guard office, shop & residential	Masonry/ Wood	2.5	Average	Coast Guard	
12	Haz Flam Sthse	Misc	320	1944	Leased to Coast Guard	Masonry/ Wood	1	Avg/Fair	Coast Guard	
86	Storage Shed	Misc	500	1944	Estimaed Size	Masonry/ Wood	1	Avg/Fair	Coast Guard	
62	Enlst Dining Fac	Misc	75	1930	Walk-in cooler behind Bldg. 45	Steel	1	Avg/Fair	Coast Guard	
NAVY										
9	EM Silencing Facility	Off	2,592	1991	Navt Retained	Masonry/ Wood	2	Avg/Good	Navy	
of Connecticut										
8	Veh Hold Shed	Shop/Gar	4,982	1949	12 bay garage/Shop	Masonry/ Wood	1	Fair	Garage	
13	Admin Off	Office/Shop	11,583	1860	Half granite/Half Alum Siding	Masonry/ Wood	2	Fair	Admin/ Shop	Contributing
15	Auto Veh Shop	Misc/Gatehouse	646	1949	Gatehouse by Trumbull St.	Wood	1	Fair/Poor	Demo	
22	Rdt & E Storage	Shop	2,850	1948	Utility Connection to Other Buildings (95)	Masonry/ Wood	1	Fair	Demo	
27	Pub Pre 1950 Fd	Office	16,555	1860	att. 4 unit town house/Caretaker Office/Stone Row	Masonry/ Wood		Avg/Fair	Admin.	Contributing
28	Detectn Sys Lab	Office	9,514	1943	Waterview location	Masonry/ Wood	2	Fair	Demo	Contributing
32	Rdt & E Storage	Office	14,544	1849	Fort Trumbull	Masonry	2	Fair	Museum	Contributing/ NHR
33	Detectn Sus Lab	Shop	3,228	1943	Former Heat Plant	Masonry/ Wood	1	Fair	Demo	
36	Ocean Scien Lab	Office	26,272	1943	Asbestos Mitigation underway	Wood	2	Fair/Poor	Demo	Non-Contrib.
42	Museum/Memrl Bl	Misc	676	1776	Block House	Masonry/ Wood	1	Fair	Museum	Contributing/ NHR
49	Pw Maint Strge	Misc	1,490	1920	Storage under Bldg 36	Masonry/ Wood	1	Fair/Poor	Demo	Non-Contrib.
50	Gate/Sent House	Misc	72	1943	Gatehouse on Walbach	Wood	1	Fair	Demo	Non-Contrib.

52	Recreation Pav	Misc	100	1950	Greenhouse behind Bldg 27	Steel	1	Fair	Demo	
53	Astro/Asphy Lab	Misc	448	1943	Hut on Fort	Masonry/ Wood	1	Fair	Demo	Non-Contrib.
84	Fund 50-69 Fd	Residential	1,415	1963	Single Family Unit	Wood	1	Fair	Demo	
85	Fund 50-69 Jr	Res	3,300	1963	Duplex	Wood	1	Fair	Demo	
89	Subst >499 Kv	Misc	152	1965	Platform Top/Storage under	Masonry/ Conc	2	Fair	Demo	
90	Pw Maint Strge	Misc	522	1990	Shredder	Masonry	1	Fair	Demo	
94	Comm Sys Lab	Spec	8,248	1972	Periscope Bldg	Steel	2	Avg/Fair	Demo	Contributing
95	Comm Reserch Lab	Misc	480	1975	Pre-Eng. Steel Bld w/ Trailer attached	Steel	1	Fair/Poor	Demo	
97	Rdt & E Storg La	Shop/Off	5,068	1977	Utility H/U for adjacent bldgs	Masonry/ Steel	1	Fair	Demo	
01	Rdt & E Storg La	Off/Lab	7,650	1984	Arch Building (Radio testing)	Masonry/ Steel	2	Avg/Fair	Demo	
07	Pw Maint Strge	Misc	1,440	1989	Pre-eng. Steel Bld.	Steel	1	Avg/Fair	Bathroom	
llc Sale										
2	Detectn Sys Lab	Office/ Research L	91,000	1990	Good quality office building	Steel/ Concrete	4	Good	High-Office	
14	Materials Lab	Shop/Research	8,567	1860	Later addition around historic core	Masonry/ Wood	2	Fair/poor	Limited	Contributing
21	Admin Off	Mish	392	1945	Contractor office	Wood	1	Fair/poor	Limited	Non-Contrib.
34	Admin Off	Off/Auditorium	22,000	1943	Bowditch Hall	Wood	3	Fair	Limited	Contributing
37	Environmental Lab	Shop/Off	9,005	1920	Secured Bldg/Fenced Roof/ No Windows	Wood	2	Fair/poor	Limited	Non-Contrib.
38	Fire Station	Shop/Gar/Off/ Res	10,675	1943	Fire Station/Labs/Diving Team @ Pier 1	Wood	2	Fair	Limited	
39	Detectn Sys Lab	Office	11,406	1943	Former Barracks Bldg	Wood	2	Fair	Limited	
40	Admin Off	Misc	476	1943	Gatehouse by Hamilton St	Wood	1	Fair	Limited	
41	Admin Off	Office	18,494	1943	Former Infirmery	Wood	3	Fair	Limited	Contributing
43	Gen Whse/Bulk	Shop/Off	35,231	1943	Shipping & Rec	Wood	2	Fair/Poor	Limited	Contributing
44	Gymnasium	Rec/Shop	48,850	1943	Swimming Pool & Testing Shop in lowest level	Wood	3	Fair/Poor	Limited	Contributing
78	Detectn Sys Lab	Misc	350	1960	Concrete Pad by Boat Ramp	Conc		Fair	None	
80	Detetn Sys Lab	Office/Res	177,170	1962	Cafeteria on Top Floor	Steel Concrete	3	Fair	Limited	Contributing
80T	Admin Off	Office	6,912	1973	Modular office	Wood	1	Fair	Limited	
96	Tec Service Lab	Off/Shp	96,965	1976	Satellite Dishes & Chiller on Roof top	Steel Concrete	4	Avg	Med.-Office	Contributing
98	Gen Strg Shed	Misc	456	1978	Addition at back of Bldg. 43	Wood		Fair	Limited	

99	Heat Plant Bldg	Utility	5,116	1980	Steam Plant	Steel Masonary	1	Avg	Medium	
103	Telecom Center	Office/Comm	2,120	1985	Pre-Eng. Steel Bld w/shielded core	Steel	1	Avg	Limited	
22T	Admin Off	Office	10,000	1982	2 story modular Building	Wood	2	Fair	Limited	

Appendix Table A-2: GATEWAY PROPERTIES

	PARCEL	ADDRESS	PRPTY TYPE	USE	TOTAL ASSESSD	LAND AREA	Total BLDG SF	Permit History	Improvement Cost	Living Area	BLDG TYPE	ROOF TYPE	BLDG HGT	YR BLT	Condition	Units	Units Oc.	Vacant/ Available SF	Reuse Potential	
	16	175 Howard Street	Gas Station	C-Auto	$101,430	10,000	2,360	1991	$27,000	1,429	Masonry/Wood	Flat	1	1950	Fair				Interim	
	33	210 Howard Street	Office Building	C-OFF	$138,320	4,533	4,683	1990	$144,000	3,168	Wood Frame	Gable	3	1900	Avg-				Interim	
	34	194 Howard Street	Office Building	C-OFF	$3,311,840	50,094	50,448	1996	$46,400	50,304	Mas/Steel	Flat	3	1985	Good-			40,358	Long Term	
	27	221 Howard Street	Rest/Club	C-Rest	$157,220	10,000	3,080	1993	$13,760	2,912	Masonry/Wood	Gable	1	1950	Avg			0	Interim	
	3	229 Howard Street	Store/Shop	C-Ret	$78,540	3,500	2,280	1989	$23,000	2,280	Masonry/Wood	Flat	1	1946	Avg-				Interim	
	32	216 Howard Street	Office Building	C-Ret	$80,570	3,000	1,900	1998	$3,200	1,900	Masonry/Wood	Tar/Gravel	1	1955	Avg-			1,265	Interim	
	1	152 Howard Street	Comm Whare	C-WHS	$109,760	5,850	5,402			0	Masonry	Gable	1	1920	Fair			0	Interim	
	3.c	162 Hamilton Street	Comm Whare	C-WHS			7,076			7,076	Masonry/Wood	Gable	1	1900	Fair-			0	Limited	
	2	65 Hamilton Street	Comm Whare	C-WHS	$90,860	7,031	3,302			3,302	Masonry/Wood	Gable	1.5	1950	Fair			0	Limited	
	3.a	162 Hamilton Street	Comm Whare	C-WHS			3,928			3,926	Masonry/Wood	Flat	2	1910	Poor			3,928	Limited	
	1	Harris Street	Whare	C-WHS	$60,970	3,844	2,000	1995	$200	2,000	Masonry/Wood	Gable	1	1970	Fair-			0	Limited	
	3	162 Hamilton Street [1]	Comm Whare	C-WHS	$308,940	71,000	21,600			21,600	Masonry/Wood	Irregular	3	1900	Fair-			14,256	Limited	
	6	23 Hamilton Street	Comm Whare	C-WHS	$197,750	24,394	11,762	None	$0	11,762	Masonry/Wood	gable	2	1870	Poor			11,762	Limited	
	19.a	150 Howard Street	Wharehouse	C-WHS			8,760			8,760	Wood Frame	Flat	2	1978	Fair			0	Interim	
	19	150 Howard Street	Wharehouse	C-WHS	$508,550	77,972	19,253			17,820	Wood Frame	Gable	2	1920	Fair			0	Limited	
	14	175R Howard Street	Comm Whare	C-WHS	$77,280	16,806	3,535	None	$0	3,535	Wood Frame	Gable	2	1900	Fair			0	Limited	For Sale w/ 2 family
	3.d	162 Hamilton Street	Comm Whare	C-WHS			5,002			5,002	Wood Frame	Gable	2	1920	Poor			5,002	Limited	
	3.b	162 Hamilton Street	Comm Whare	C-WHS			588			588	Wood Frame	Gable	1	1930	Poor			0	Limited	
	13.a	Howard Street Rear	Comm Whare	C-WHS			11,640	None	$0	11,640	Wood Frame	Shed	2	1900	Poor			11,640	Limited	
	9	37 Hamilton Street	Single Family	R	$25,900	2,108	2,311	None	0	1,292	Wood Frame	Gable	2	1900	Poor	1	0		Limited	
	6	232 Shaw Street	Single Family	R	$60,340	3,021	2,328			1,480	Wood Frame	Monsard	2	1900	Fair-	1	1		Limited	
	25	211R Howard Street	Single Family	R	$108,290	8,050	3,989	1993	$6,000	1,991	Wood Frame	Gable	2	1900	Fair	1	1		Limited	
	20	189 Howard Street	Halfway House	R	$69,810	5,760	3,234	1995	$50	2,002	Wood Frame	Gable	2	1900	Fair	1	1		Limited	
	26	215 Howard Street	Single Family	R	$57,050	42,400	720			488	Wood Frame	Gable	1.5	1900	Fair	1	1		Limited	
	18	185 Howard Street	Two Family	R	$124,110	5,400	3,119	1994	$46,000	2,403	Wood Frame	Gable	3	1900	Avg-	2	0		Limited	For Sale/Renovated
	12	161 Howard Street	Two Family	R	$86,380	5,200	4,135			3,020	Wood Frame	Gable	2.5	1900	Fair	2	2		Limited	
	25.a	211 Howard Street	Single Family	R			1,104			1,064	Wood Frame	Gambrel	1.5	1910	Fair	1	1		Limited	
	15	175 Howard Street Rear	Two Family	R	$67,550	2,798	3,987	1990	$12,000	2,318	Wood Frame	Gable	2	1900	Fair	2	2		Limited	
	36.2	170 Howard Street	Two Family	R	$59,430	1,310	3,770			1,768	Wood Frame	Gable	2	1900	Fair-	2	2		Limited	
	36.1	172 Howard Street	Two Family	R	$71,690	2,651	3,372	1991	$8,000	1,598	Wood Frame	Gable	2	1882	Fair-	2	1		Limited	For Sale
	2	237 Howard Street	Two Family	R	$77,690	7,555	4,137	1995	$500	2,002	Wood Frame	Gable	2	1900	Fair-	2	2		Limited	
	24	209 Howard Street	Two Family	R	$113,050	5,940	4,938	1995	$5,500	2,410	Wood Frame	Gable	2	1900	Fair+	2	2		Limited	
	30	12 Harris Street	Two Family	R	$93,220	4,508	4,872			2,593	Wood Frame	Gable	2	1900	Poor	2	2		Limited	
	13	163 Howard Street	Two Family	R	$115,430	28,080	4,709			3,295	Wood Frame	Gable	2.5	1900	Poor	2	0		Limited	
	29	16 Harris Street	Two Family	R	$81,760	4,692	4,812			2,721	Wood Frame	Gable	2	1900	Poor	2	2		Limited	
	8	224 Shaw Street	Two Family	R	$83,230	4,697	4,414			2,142	Wood Frame	Gable	2	1900	Poor	2	2		Limited	

Appendix Table A-2: GATEWAY PROPERTIES – Continued

LOC	PARCEL	ADDRESS	PRPTY TYPE	USE	TOTAL ASSESSD	LAND AREA	Total BLDG SF	Permit History	Improvement Cost	Living Area	BLDG TYPE	ROOF TYPE	BLDG HGT	YR BLT	Condition	Units	Units Oc.	Vacant/ Available SF	Reuse Potential	
	10	39 Hamilton Street	Three Family	R	$73,290	2,300	4,308			3,141	Wood Frame	Gable	2	1900	Poor	3	0		Limited	
	4	239 Howard Street	Three Family	R	$84,840	3,671	4,016			2,886	Wood Frame	Gable	2	1900	Fair	3	2		Limited	
	5	Hamilton Street	Municipal	VL	$560	1,500	0													
	7	Hamilton St.	Municipal	VL	$1,610	1,900	0													
	8	33 Hamilton Street	Developed	VL	$31,570	6,942	0													
	11	157 Howard Street	Municipal	VL	$17,430	2,400	0			0										
	19	Shaw St.	Municipal	VL	$41,930	59,677	0			0	Vacant Land									
	21	195 Howard Street	Vacant Land	VL	$27,720	11,680	0			0										
	22	197 Howard Street	Parking Lot	VL-PL	$46,690	11,914	0			0										
	23	203 Howard Street	Parking Lot	VL-PL	$40,250	5,508	0			0										
	38	Shaw Street	Res Devel	VL	$3,850	3,648	0				Vacant Land									
	5	243 Howard Street	Vacant Land	VL	$25,410	8,593	0			0										
	7	230 Shaw Street	Vacant Land	VL	$18,200	2,600	0			0										
City of New London Assessor's Office and RKG Associates, Inc.																				

Appendix Table A-3: Fort Trumbull Area Properties

LOC	PARCEL	ADDRESS	USE	TOTAL ASSESSD	LAND AREA	Total BLDG SF	Permit History	Improvement Cost	Living Area	BLDG TYPE	ROOF TYPE	HGT	YR BLT	Condition	Units	Units Occ.	Vacant/ Available SF	Reuse Potential	Comments
107	30	36 Walbach St.	C-Rest	$66,080	1,430	2,100	1990/91	$118,000	1,050	Masonry/wood	Flat	1	1957	Fair+				Interim	Fort Trumbull Café
105	3	87 Walbach Street	R-Rest			500			500	Wood Frame	Gable	2	1890	Fair			500	Limited	Former Deli on first Floor vacant
105	20	35 Smith Street	R-Rest			888			888	Masonry	Flat	3	1910	Fair			888	Limited	Former Deli on first floor vacant & Five apartments
68	16	95 Trumbull Street	C-Mill	$581,350	38,650	18,689	1994	$100	18,455	Masonry	Flat	3	1853	Fair			11,213	Limited	Mostly vacant;
105	13	82 Trumbull Street	C-Mill	$138,040	9,100	23,399	1997	$10,000	8,352	Masonry	Flat	3.5	1918	Poor			14,047	Limited	Boarded up windows; no heat; [illegible]
107	17, 18	72 Goshen Street	C-OFF	$372,890	14,438	8,178	1990/91	$180,800	5,530	Masonry/Wood	Gable	2	1900	Avg				Interim	Office for NUWC Contractor; Parking at rearside (20 car +)
106	6	50 Smith Street	C-OFF	$169,540	12,314	4,263			2,793	Wood Frame	Gable	2	1890	Avg			4,263	Interim	Recent Conversion to office; rented by NUWC
108	2	72 Smith Street	C-Auto	$48,160	8,210	1,512	1995	$1,500	1,512	Masonry	Shed	1	1957	Fair-				Limited	
108	1	32 Walbach St/Portion [1]	C-Whs	$342,680	87,120	7,760			2,800	Wood Frame	Shed	2	1900	Fair-				Limited	Amtrak railyard & roundhouse
108	14	79 Goshen Street	C-Other	$175,490	12,660	7,578			3,789	Masonry	Gable/Hip	1	1922	Avg-				Interim	Stucco; Parking at side for 15 Cars
108	3	68 Smith Street	C-Other	$222,390	12,550	5,680	1990	$10,000	2,894	Concrete	Gable	1	1930	Avg-				Limited	
68	14	93 Trumbull Street	C-Other	$83,680	4,500	240			0	O Bld-Restroom		1	1988	Fair				Limited	
105	4	28 East Street	R	$145,800	9,305	2,662	1992	$2,900	1,374	Wood Frame	Gable	2	1890	Fair	1	1		Limited	
105	9	12 East Street	R	$47,110	2,298	1,778			1,064	Wood Frame	Gable	1.5	1890	Fair	1	1		Limited	Waterview
105	10	10 East Street	R	$56,960	2,240	1,942			1,149	Wood Frame	Gable	1.5	1890	Fair	1	1		Limited	
105	11	8 East Street	R	$55,300	1,738	1,862			1,114	Wood Frame	Gable	1.5	1890	Avg+	1	1		Limited	Well-Maintained, Updated Exterior
105	15	15 Smith Street	R	$50,330	3,240	1,768	1991	$60,000	1,028	Wood Frame	Gable	2	1890	Avg+	1	1		Limited	Updated; above average cond
105	16	17 Smith Street	R	$50,960	3,294	1,729			1,131	Wood Frame	Gable	2	1890	Fair	1	1		Limited	
105	3	87 Walbach Street	R-Mixed	$208,320	12,644	1,858	1998	$10,000	1,380	Wood Frame	Gable	2	1890	Fair	1	0		Limited	
105	3.c	16 East Street	R		0	2,515			1,488	Wood Frame	Gable	1	1890	Avg	1	1		Limited	
105	3.b	79 Smith Street	R		0	1,590			732	Masonry/Wood	Gable	1	1870	Fair	1	1		Limited	
105	8	16 East Street	R	$140,700	18,297	4,450			2,858	Wood Frame	Gable	1	1942	Poor	1	0		Limited	Poorly Maintains; Appears Vacant; Waterview
106	1	78 Smith Street	R	$53,820	6,210	1,450			928	Wood Frame	Gable	2	1820	Poor	1	0		Limited	
106	8	41 Goshen Street	R	$52,010	6,338	3,897	1994 & 96	$8,000	1,848	Wood Frame	Gable	2	1890	Fair-	1	0		Limited	Being renovated; ext. partially done; gutted/vacant/unlivable
107	8	96 Smith Street	R	$57,820	6,260	2,852	1995	$3,000	1,589	Wood Frame	Gable	1.5	1878	Poor	1	1		Limited	No Shower in bath
107	10	86 Smith Street	R	$49,280	2,613	1,974	1992	$500	1,474	Wood Frame	Gable	2	1890	Poor	1	1		Limited	
107	19	88 Goshen Street	R	$59,990	11,321	1,334	1990	$7,000	598	Wood Frame	Gable	1	1890	Fair+	1	1		Limited	At rear of Sonalysi office; next to rail yard
107	20	64 Goshen Street	R	$51,520	5,100	1,530			590	Wood Frame	Gable	1	1890	Fair	1	1		Limited	Resided
105	3.a	81-83 Walbach Street	R		0	3,525	1995	$20,700	2,100	Wood Frame	Gable	2	1890	Fair+	2	1		Limited	Updated
105	5	22 East Street	R	$62,680	11,784	2,527	1995/96	$10,000	1,594	Wood Frame	Gable	2	1890	Avg	2	2		Limited	Well-Maintained, Updated Exterior

Appendix Table A-3: Fort Trumbull Area Properties – Continued

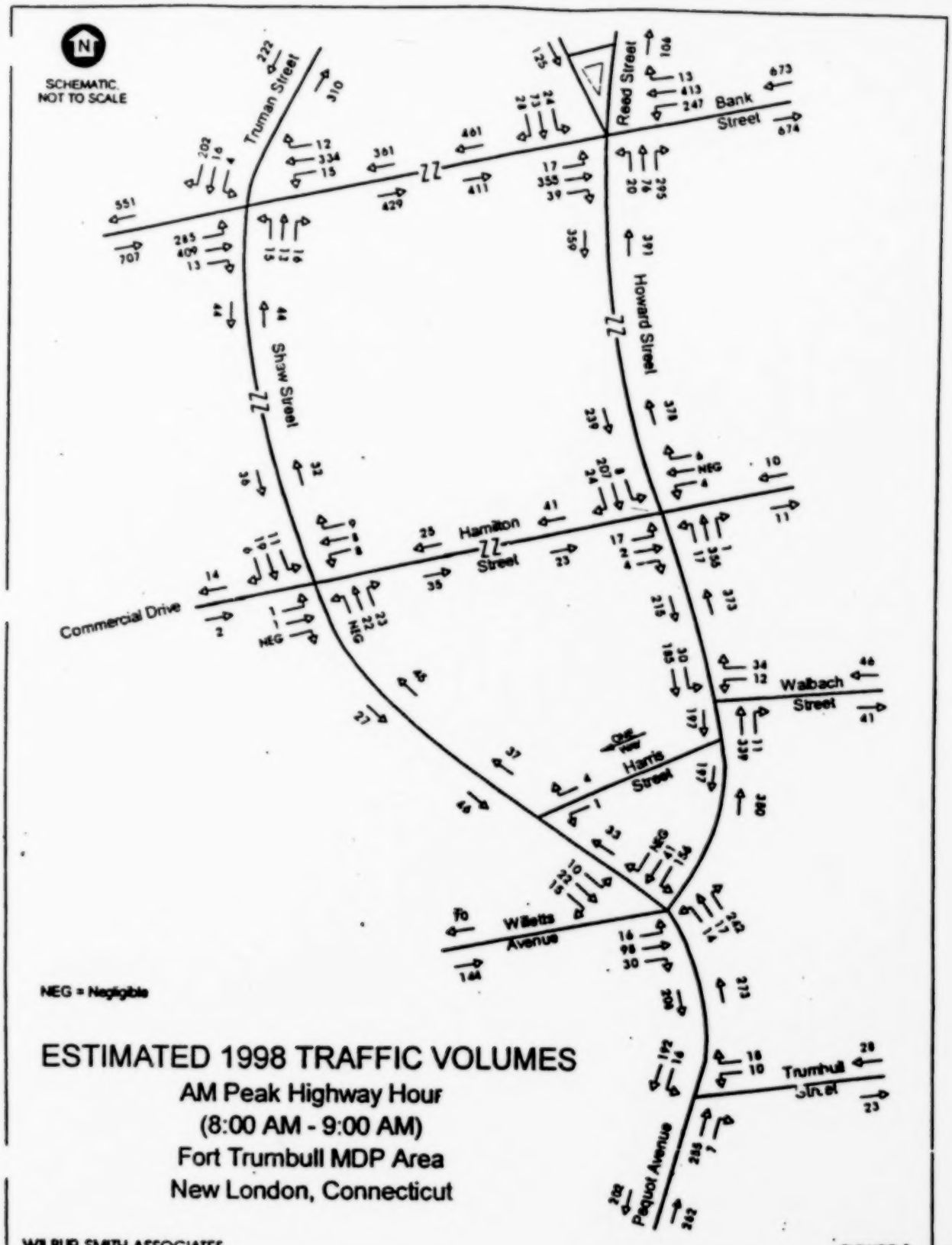
LOC	PARCEL	ADDRESS	USE	TOTAL ASSESSD	LAND AREA	Total BLDG SF	Permit History	Improvement Cost	Living Area	BLDG TYPE	ROOF TYPE	HGT	YR BLT	Condition	Units	Units Oc.	Vacant/ Available SF	Reuse Potential	
105	12	90 Trumbull Street	R	$97,650	8,050	5,348			3,672	Wood Frame	Gable	2	1890	Poor	2	2		Limited	Asb. Siding
105	14	11-13 Smith Street	R	$71,400	4,978	3,840	1990	$1,400	1,872	Wood Frame	Gable	2	1890	Fair	2	1		Limited	Roof falling; prop updated
105	18	27 Smith Street	R	$63,910	4,590	2,872			1,592	Wood Frame	Gable	2	1920	Fair	2	2		Limited	
105	8.a	14 East Street	R		0	2,708			1,811	Wood Frame	Gable	1.5	1942	Poor	2	2		Limited	Waterview
105	8.b	16 East Street Rear	R		0	1,268			832	Wood Frame	Gable	1.5	1890	Poor	2	1		Limited	Red
107	12	12 Chelsea Street	R	$79,860	7,271	3,904	1993/98	$25,000	2,018	Wood Frame	Gable	2	1890	Fair	2	2		Limited	1994 Vac. Hse-vandalized
108	5	54-56 Smith Street	R	$37,310	13,880	2,072			2,072	Wood Frame	Gable	2	1870	Fair	2	2		Limited	Masonite; noticeable maintenance & upkeep
108	9	49 Goshen Street	R	$66,670	7,154	2,182	1994/95	$38,050	1,330	Wood Frame	Gable	1.5	1890	Fair	2	2		Limited	New windows, Paint, needs siding
108	10	53 Goshen Street	R	$70,140	14,269	3,868			2,088	Wood Frame	Gable	2	1890	Fair	2	2		Limited	Shakes; needs paint
108	12	59 Goshen Street	R	$77,350	8,158	3,883	1992	$3,200	2,240	Masonry/Wood	Gable	2	1920	Fair	2	2		Limited	Brick/Stucco
107	11	4 Chelsea Street	R	$78,820	3,635	3,488	1994	$400	2,268	Masonry/Wood	Gable	2	1900	Fair-	2	1		Limited	Brick/Stucco
107	13	6 Chelsea Street	R	$70,560	4,080	3,707			1,638	Wood Frame	Gable	2	1890	Poor	2	2		Limited	Poorly Maintained despite some upgrades
107	14	8 Chelsea Street	R	$71,400	3,876	4,404			2,110	Wood Frame	Gable	2	1890	Poor	2	2		Limited	Poorly Maintained despite some upgrades
107	22	58 Goshen Street	R	$58,860	4,146	3,662	1992	$3,000	1,776	Wood Frame	Gable	2	1900	Poor	2	2		Limited	Has new roof; masonite
107	24	54 Goshen Street	R	$69,790	5,214	2,872			1,386	Wood Frame	Gable	2	1900	Fair	2	2		Limited	New windows, shake siding
107	25	50 Goshen Street	R	$68,250	4,002	3,160			1,564	Wood Frame	Gable	2	1900	Avg-	2	2		Limited	Newer siding, windows
107	27	46 Goshen St.	R	$70,210	3,327	3,208			1,624	Wood Frame	Gable	2	1910	Fair	2	2		Limited	Has newer windows; masonite
107	28	42 Goshen Street	R	$70,770	2,468	3,712	1990	$9,000	2,024	Wood Frame	Gable	2	1912	Fair-	2	2		Limited	Has garage; new furnace in 1990
105	4.a	28 East Street	R			4,165			3,072	Masonry/Wood	Flat	3	1890	Fair	3	2		Limited	
105	1	77 Walbach St.	R	$92,820	7,500	4,992			3,100	Wood Frame	Gable	2	1890	Fair	3	2		Limited	
105	17	19 Smith Street	R	$99,610	6,750	5,266	1990	$1,800	3,208	Wood Frame	Gable	2	1890	Avg-	3	3		Limited	Well-Maintained, New Roof
105	19	31 Smith Street	R	$78,640	4,050	3,688	1994	$8,350	2,558	Wood Frame	Gable	3	1890	Fair+	3	3		Limited	Former Store; Well-Maintained, Older Property
107	9	90 Smith Street	R	$98,000	6,250	5,850	1995/96	$2,600	3,209	Wood Frame	Gable	2	1890	Fair	3	3		Limited	
106	4	66 Smith Street	R	$100,170	8,233	4,441	1996	$1,000	2,730	Masonry/Wood	Flat	2	1890	Avg-	4	4		Limited	Brick/Stucco
105	20	35 Smith Street	R-Mixed	$129,430	4,410	8,027			3,873	Masonry	Flat	3	1910	Fair	5	5		Limited	Former Deli on first floor vacant & Five apartments
68	11	Lot 11, Trumbull Street	VL	$47,600	8,190				0										
68	12	Lot 12, Trumbull Street	VL	$28,900	14,742	0			0										
58	13	Lot 13, Trumbull Street	VL	$71,610	10,200	0			0	Outbuilding	na	na							
07	7	Smith Street	VL	$37,660	3,500					Antennae									
06	13	69B Goshen Street	VL	$23,170	6,651														
06	7	44 Smith Street	VL	$23,170	8,448				0										
07	16	16 Chelsea Street	VL	$12,320	10,681				0										
07	21	Goshen Street	VL	$39,480	5,600				0	Outbuilding	na	na							
07	26	Walbach Street	VL	$39,620	5,400				0	Outbuilding	na	na							
	37	37 Smith Street	VL	$401,170	121,097	0				Public Tank	na								Processing Facility on Barge

City of New London Assessor's Office and RKG Associates, Inc.

Appendix Table A-4: LOWER PEQUOT AVENUE PROPERTIES

MAP	BLOCK	PARCEL	ADDRESS	USE	LAND AREA	# Of Bldg	Total BLDG SF	Permit History	Impr. Cost	Finished Area	BLDG TYPE	ROOF TYPE	BLDG HGT	YR BLT	Condition	Units	Units Occ.	% Vac.	Vacant/ Available SF	Reuse Potential	Comments
22	89	4	21 Pequot	C-Mill	25,000	1	21,152			21,152	Masonry/Wood	Flat	3	1890	Fair			0%	0	Limited	Pfizer Hold Out due to litigation
22	89	1	5 Pequot Ave	R	4,275	1	3,096			2,064	Wood Frame	Gable	2	1890	Poor	2	0			Limited	Demo Struct 10/98
22	89	2	11 Pequot Ave	R	4,264	1	3,970			1,748	Wood Frame	Gable	2	1900	Poor	2	0			Limited	Fire Damage 94; Demo Struct 10/98
22	89	3	17 Pequot	VL	6,175	0					Bldg Not There										Vacant Lot

APPENDIX D
Traffic Volume Data/Graphics

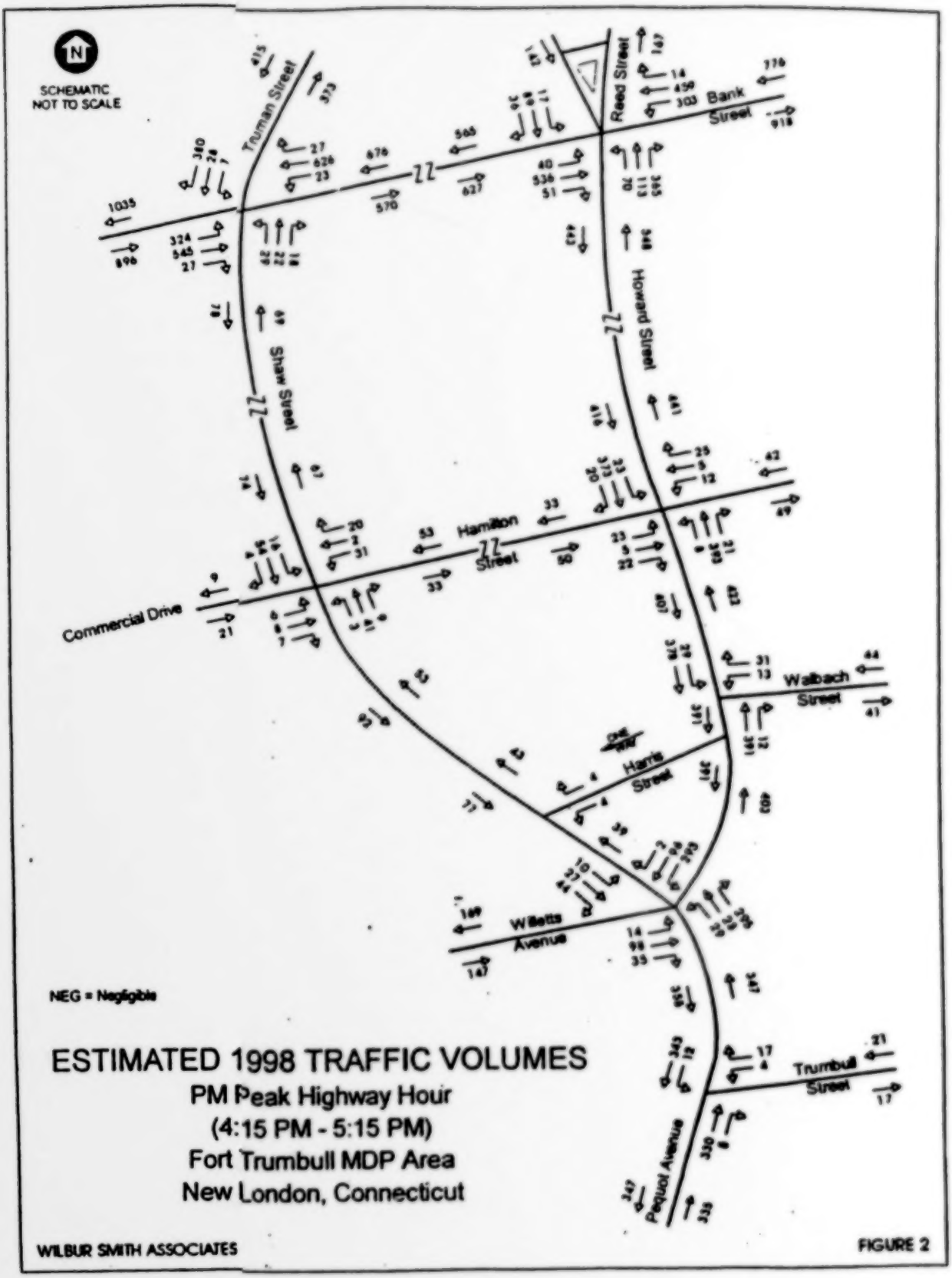


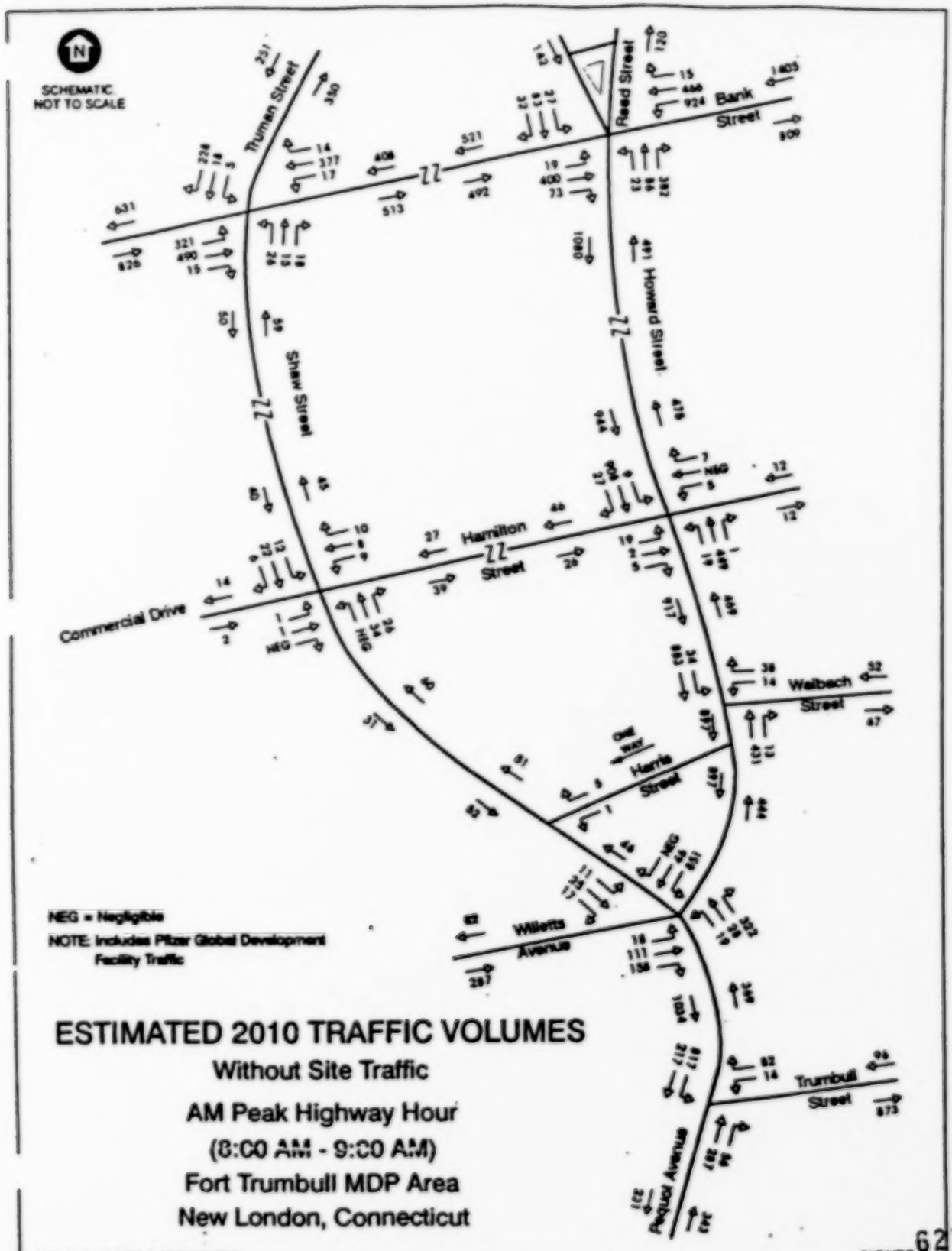
ESTIMATED 1998 TRAFFIC VOLUMES

AM Peak Highway Hour
(8:00 AM - 9:00 AM)
Fort Trumbull MDP Area
New London, Connecticut

WILBUR SMITH ASSOCIATES

FIGURE 1


SCHEMATIC
NOT TO SCALE
Truman Street
Reed Street
Bank Street
Howard Street
Shaw Street
Hamilton Street
Commercial Drive
Walbach Street
Harris Street
Willetts Avenue
Trumbull Street
Pequot Avenue
NEG = Negligible
ESTIMATED 1998 TRAFFIC VOLUMES
PM Peak Highway Hour
(4:15 PM - 5:15 PM)
Fort Trumbull MDP Area
New London, Connecticut
WILBUR SMITH ASSOCIATES
FIGURE 2



ESTIMATED 2010 TRAFFIC VOLUMES

Without Site Traffic

AM Peak Highway Hour

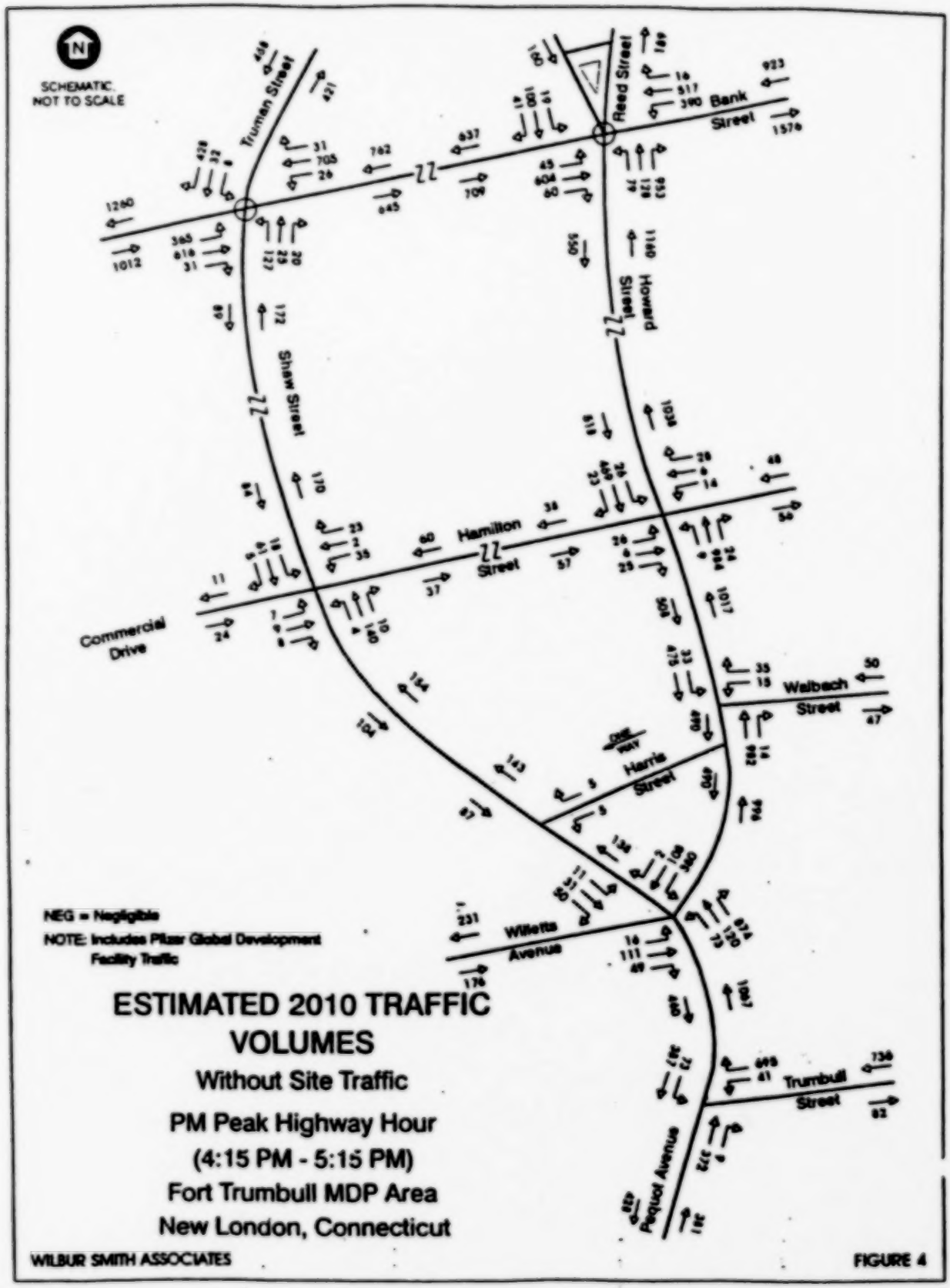
(8:00 AM - 9:00 AM)

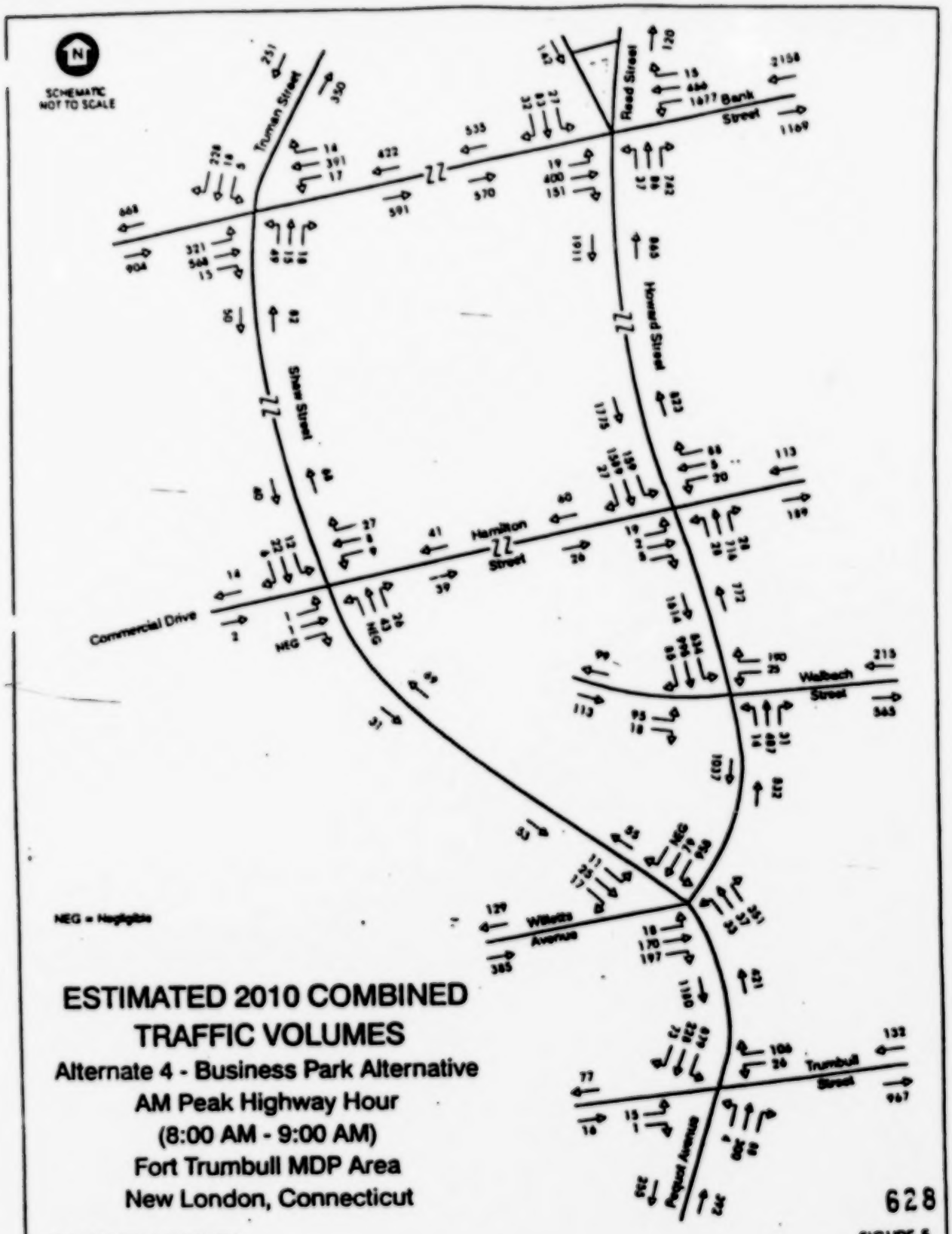
Fort Trumbull MDP Area

New London, Connecticut

WILBUR SMITH ASSOCIATES

FIGURE 5


SCHEMATIC
NOT TO SCALE
Truman Street
Reed Street
Bank Street
Howard Street
Shaw Street
Hamilton Street
Commercial Drive
Walbach Street
Harris Street
Willetta Avenue
Trumbull Street
Pequot Avenue
NEG = Negligible
NOTE: Includes Pfizer Global Development Facility Traffic
ESTIMATED 2010 TRAFFIC VOLUMES
Without Site Traffic
PM Peak Highway Hour
(4:15 PM - 5:15 PM)
Fort Trumbull MDP Area
New London, Connecticut
WILBUR SMITH ASSOCIATES
FIGURE 4



ESTIMATED 2010 COMBINED TRAFFIC VOLUMES

Alternate 4 - Business Park Alternative

AM Peak Highway Hour

(8:00 AM - 9:00 AM)

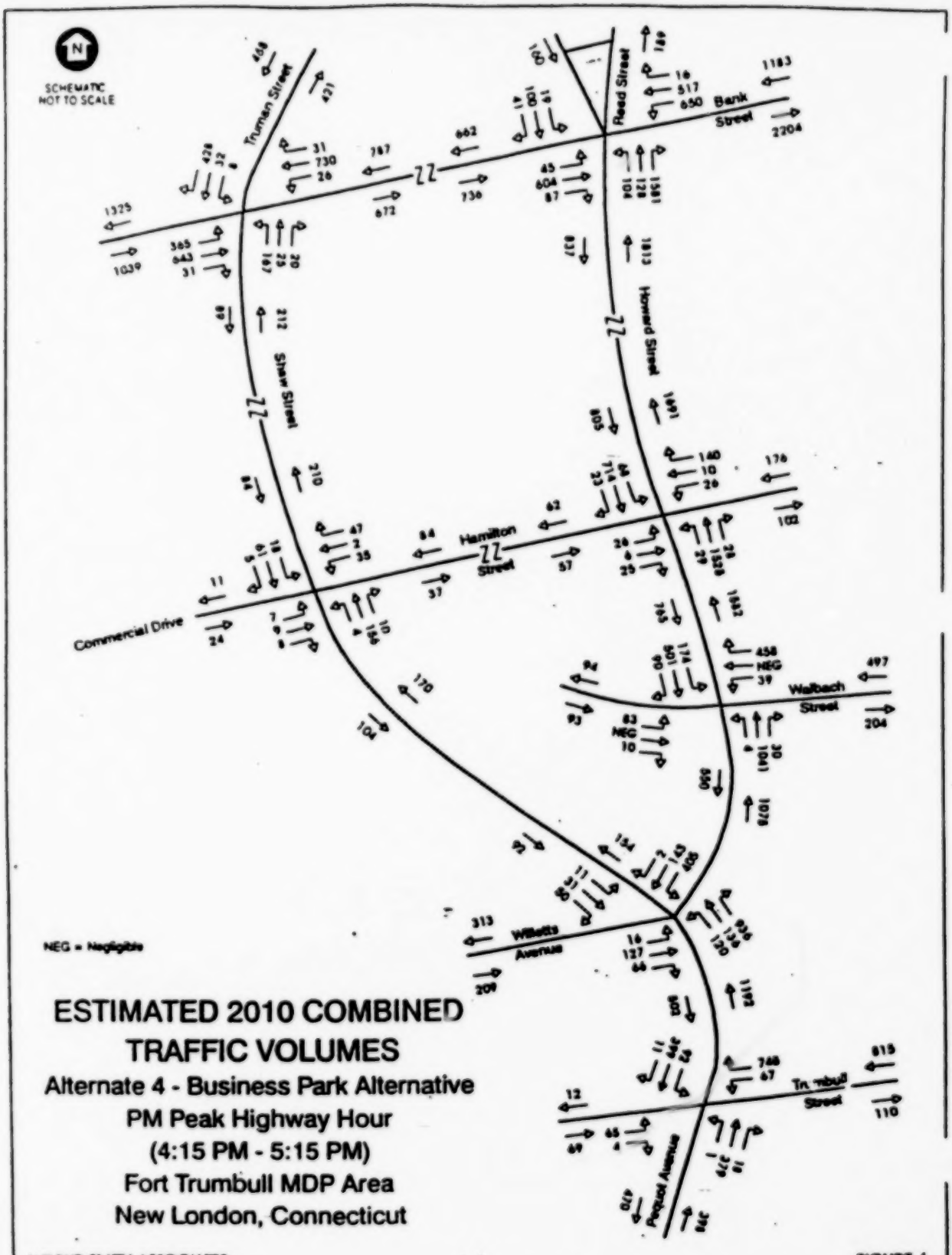
Fort Trumbull MDP Area

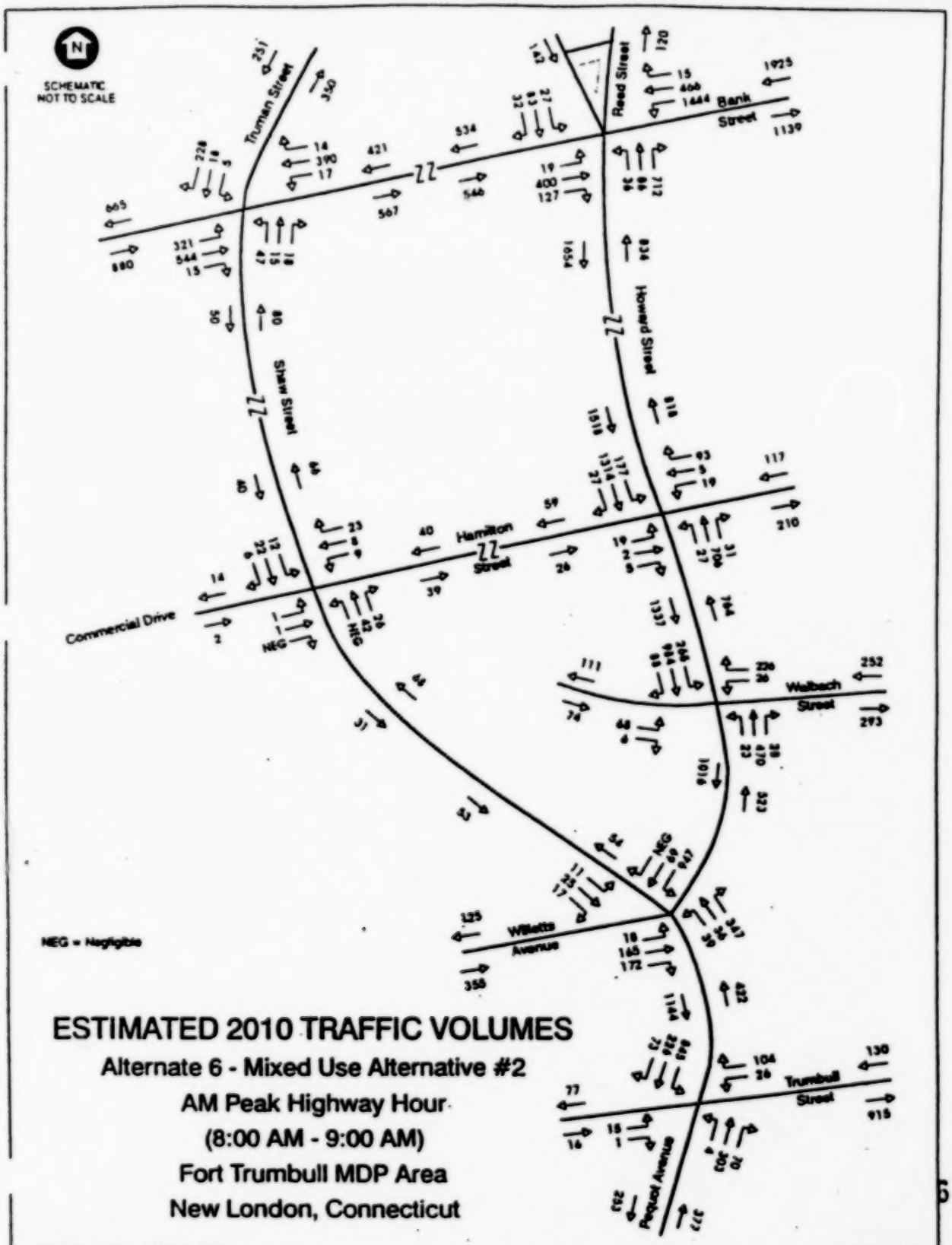
New London, Connecticut

628

WILBUR SMITH ASSOCIATES

FIGURE 5


SCHEMATIC
NOT TO SCALE
Truman Street
Read Street
Bank Street
Shaw Street
Howard Street
Hamilton Street
Commercial Drive
Walbach Street
Willetts Avenue
Tr mbull Street
Pequot Avenue
NEG = Negligible
ESTIMATED 2010 COMBINED
TRAFFIC VOLUMES
Alternate 4 - Business Park Alternative
PM Peak Highway Hour
(4:15 PM - 5:15 PM)
Fort Trumbull MDP Area
New London, Connecticut
WILBUR SMITH ASSOCIATES
FIGURE 6



ESTIMATED 2010 TRAFFIC VOLUMES

Alternate 6 - Mixed Use Alternative #2

AM Peak Highway Hour

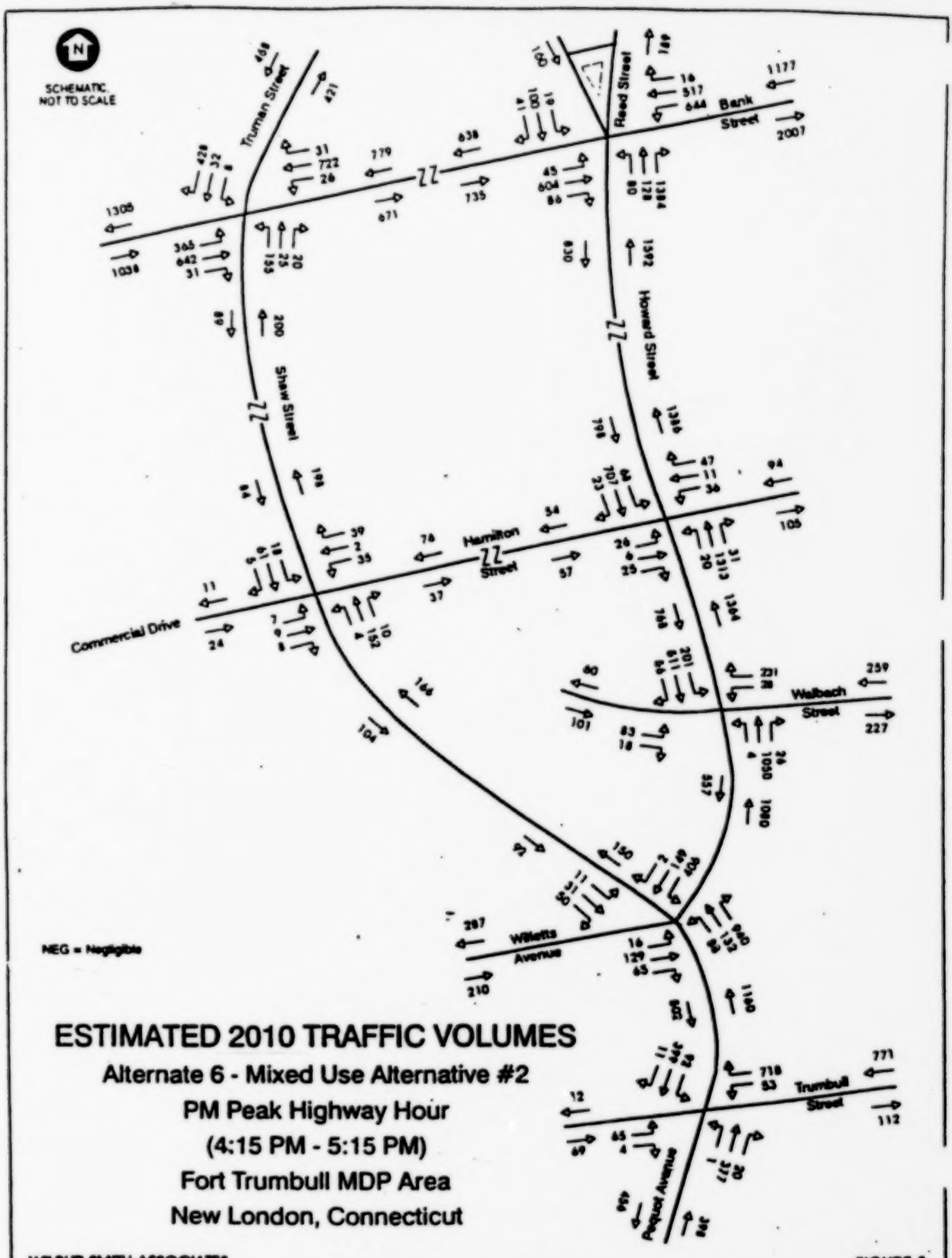
(8:00 AM - 9:00 AM)

Fort Trumbull MDP Area

New London, Connecticut

WILBUR SMITH ASSOCIATES

FIGURE 7



ESTIMATED 2010 TRAFFIC VOLUMES

Alternate 6 - Mixed Use Alternative #2

PM Peak Highway Hour

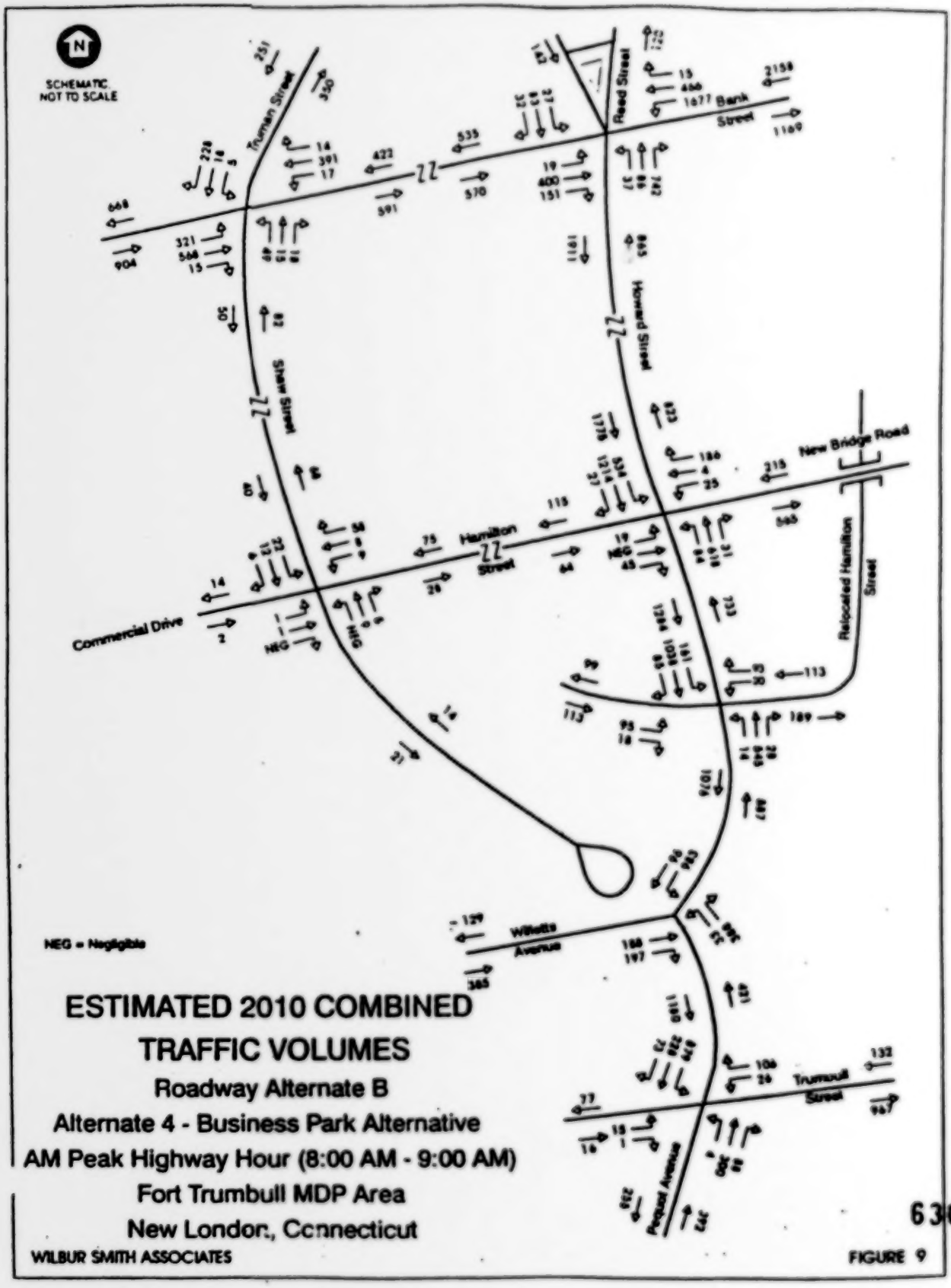
(4:15 PM - 5:15 PM)

Fort Trumbull MDP Area

New London, Connecticut

WILBUR SMITH ASSOCIATES

FIGURE 8



ESTIMATED 2010 COMBINED TRAFFIC VOLUMES

Roadway Alternate B

Alternate 4 - Business Park Alternative

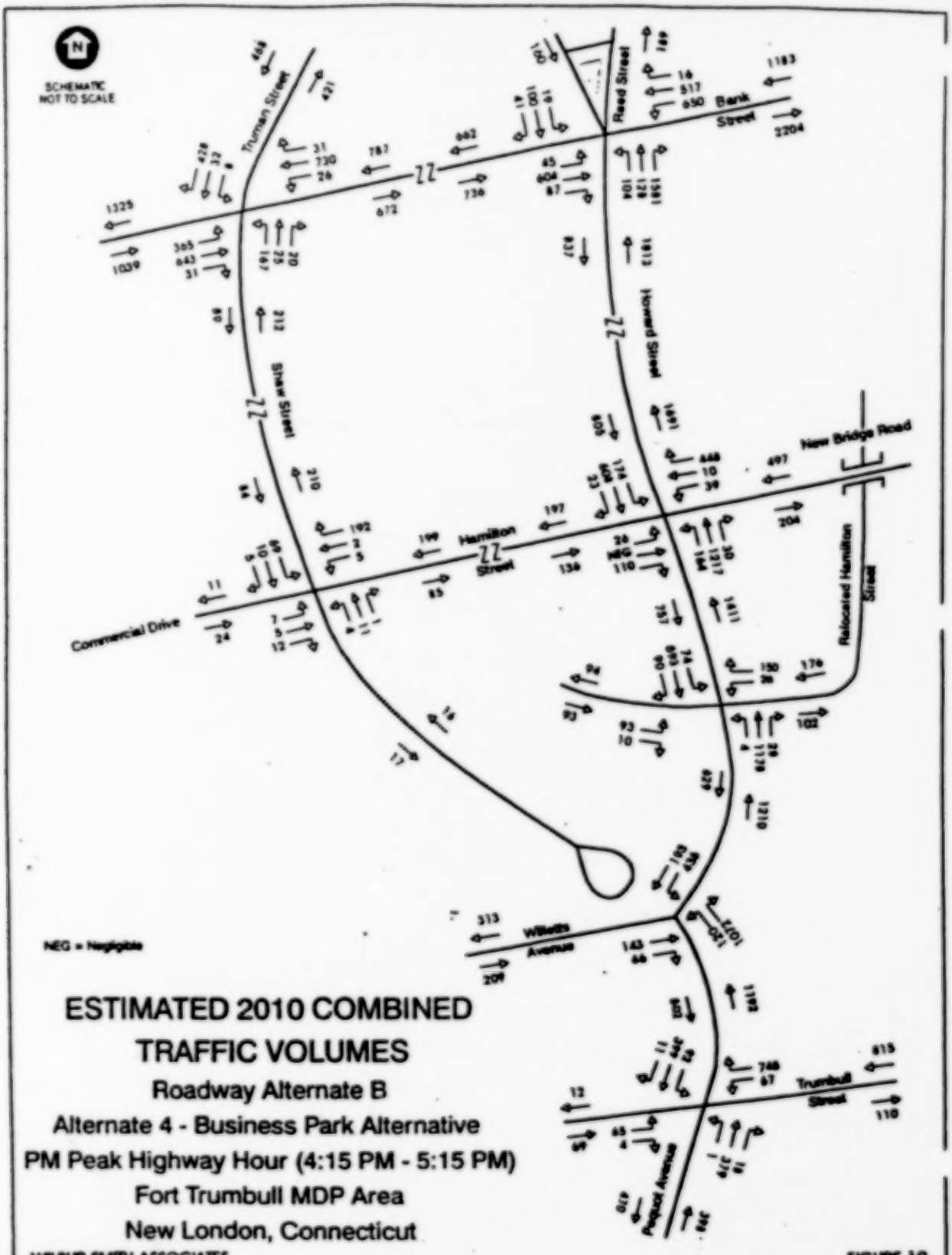
AM Peak Highway Hour (8:00 AM - 9:00 AM)

Fort Trumbull MDP Area

New London, Connecticut

WILBUR SMITH ASSOCIATES

FIGURE 9



ESTIMATED 2010 COMBINED TRAFFIC VOLUMES

Roadway Alternate B

Alternate 4 - Business Park Alternative

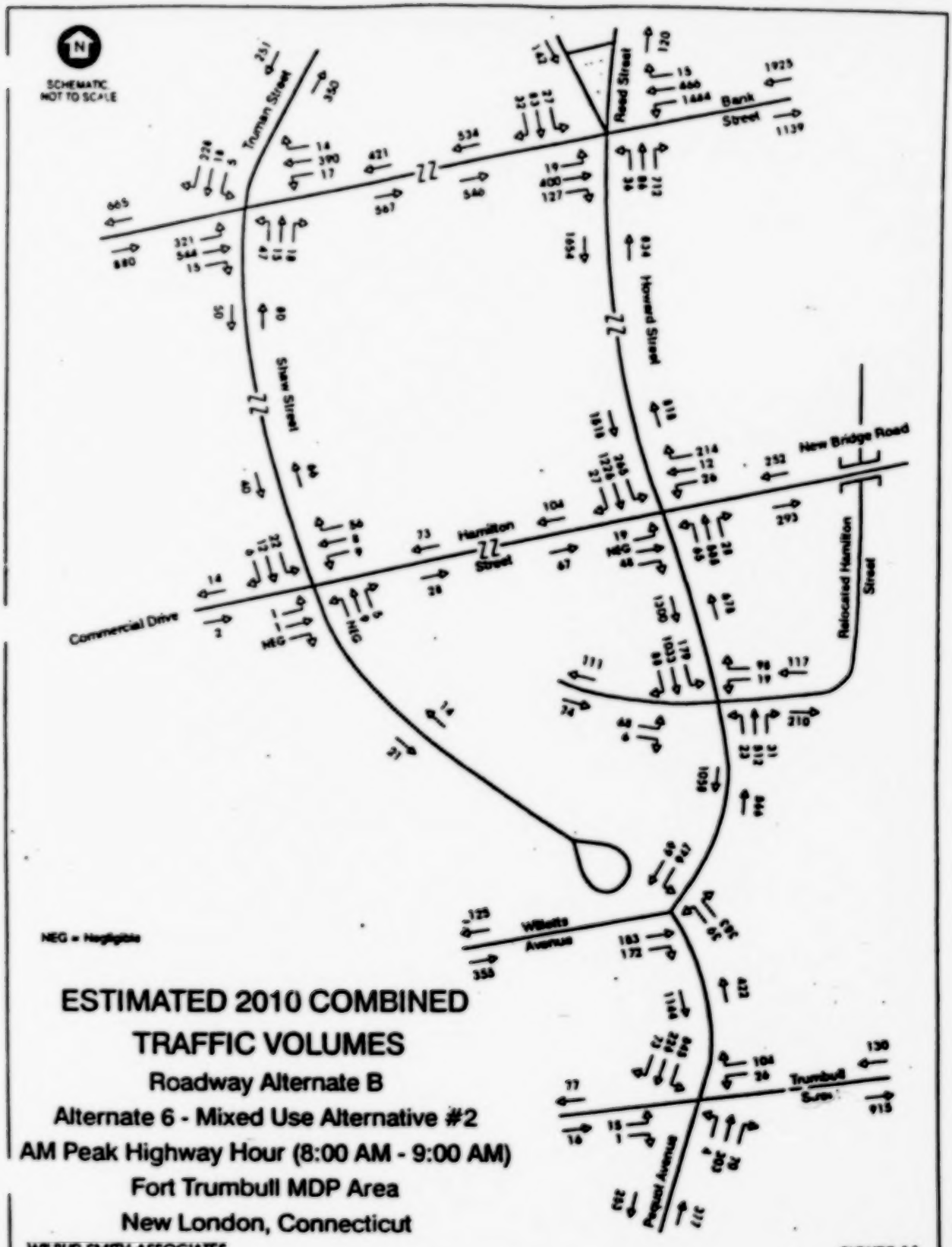
PM Peak Highway Hour (4:15 PM - 5:15 PM)

Fort Trumbull MDP Area

New London, Connecticut

WILBUR SMITH ASSOCIATES

FIGURE 10



ESTIMATED 2010 COMBINED TRAFFIC VOLUMES

Roadway Alternate B

Alternate 6 - Mixed Use Alternative #2

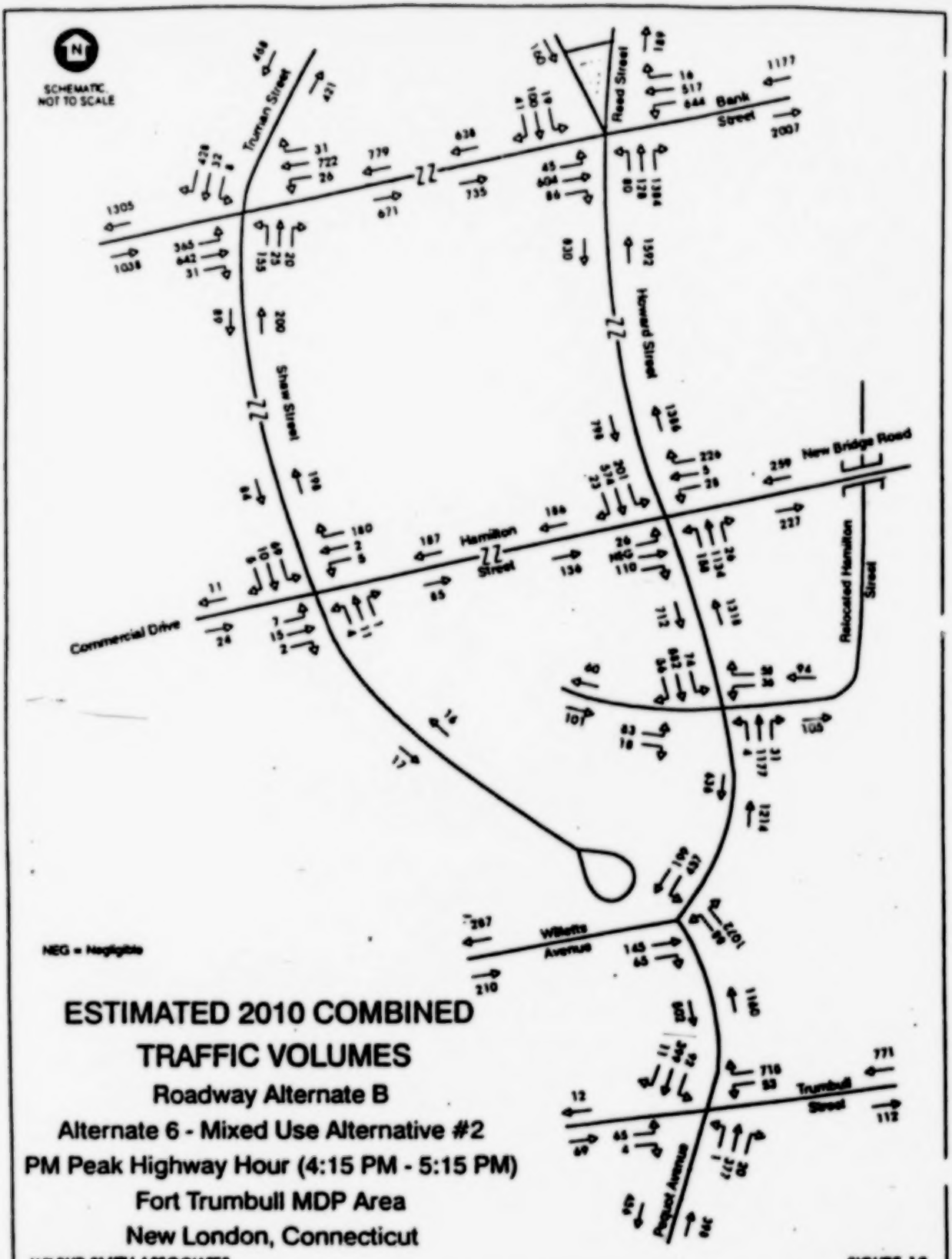
AM Peak Highway Hour (8:00 AM - 9:00 AM)

Fort Trumbull MDP Area

New London, Connecticut

WILBUR SMITH ASSOCIATES

FIGURE 11



ESTIMATED 2010 COMBINED TRAFFIC VOLUMES

Roadway Alternate B

Alternate 6 - Mixed Use Alternative #2

PM Peak Highway Hour (4:15 PM - 5:15 PM)

Fort Trumbull MDP Area

New London, Connecticut

WILBUR SMITH ASSOCIATES

FIGURE 12

APPENDIX E
Summary of Findings of Environmental Property Reviews

ID	ADDRS	MAP	BLK	PAR	OWNER	PRPTY TYPE	AGE	RISK RATING	RATIONALE FOR MED OR HIGH RATING
2	36 Walbach St.	22	107	30	Rogovin, Isodore	Rest/Club	1957	Low	
3	77 Walbach St.	21	105	1	Richardson, Edward & Sylvia A	Three fam	1890	Low	
4	79 Walbach St.	21	105	3	Ciavaglia, Rose	Single fam	1870	Low	
7	95 Trumbull St.	20	68	16	Harbor Industrial Development Corp.	Industrial	1853	High	Sheet Metal Shop 1963-1977, paper mfg. 1938-1953, silk thread 1924-1933 paint shop Drywell/septic reported, UST reported
8	93 Trumbull St.	21	68	14	Fort Trumball Marina, Inc.	Developed		High	Boat Yard 1907-1972, machine shop, paint shop, gasoline spill 1996
9	90 Trumbull St.	21	105	12	Lawrence, Frederick, E.	Two fam	1890	Low	
10	82 Trumbull St.	21	105	13	N.L. Trap & Bait	Commercial	1918	High	Former Tube Mfg 1951-1977, Textile Mill 1924-1933, Laundry 1919, Machine Shop 1921
11	lot 12 Trumbull St.	22	68	12	Ocean World Learning, Inc.	Vac. Land		High	Historic disposal from adjacent scrap yard
12	4 Chelsea St.	21	107	11	Donihee, Bernard, J.	Two fam	1900	Low	
13	12 Chelsea St.	21	107	12	Friedeberg, Donna	Two fam	1890	Low	
14	6 Chelsea St.	21	107	13	Perkins, Maloyid & Elaine	Two fam	1890	Low	
15	8 Chelsea St.	21	107	14	Perkins, Maloyid, J., III	Two fam	1890	Low	
16	16 Chelsea St.	21	107	16	Wieczorek, Zigmond	vac Land		Low	
17	11-15 Smith St.	21	105	14	Johnson, Edward & Josephine	Two fam	1890	Low	
19	87 Walbach St.	21	105	3	Ciavaglia, Rose	Single fam	1890	Low	
20	15 Smith St.	21	105	15	Hohmann, Kurt H.	Single fam	1890	Low	
21	17 Smith St.	21	105	16	Farrar, Richard & Rose	Single fam	1890	Low	
22	19 Smith St.	21	105	17	Guretsky, James & Laura	Single fam	1890	Low	
23	27 Smith St.	21	105	18	Von Winkle Karl, Trustee	Two fam	1920	Low	
24	31 Smith St.	21	105	19	Von Winkle Karl, Trustee	Store/Shop	1890	Low	
25	35 Smith St.	21	105	20	Von Winkle Karl, Trustee	Store/Shop	1910	Low	
26	44 Smith St.	21	106	7	Weeks, Wendy	vac Land		Low	
27	50 Smith St.	21	106	6	Weeks, Wendy	Office build	1890	Low	
28	54-56 Smith St.	21	106	5	Pasqualini, Walter & Nora	Two fam	1870	Low	
29	66 Smith St.	21	106	4	Rakoshy & Dubicki	Apt. 4-8	1890	Low	
30	68 Smith St.	21	106	3	Iglesia Primeria Baptist Spanish Church	Church	1930	Low	
31	72 Smith St.	21	106	2	Luzi, Carolyn, A.	Auto Repair	1957	High	Autobody shop 1985 to present, AGT for waste oil, oil/anti-freeze spill 1993
32	78 Smith St.	21	106	1	Brelesky, Thelma	Single fam	1820	Med	Norge Oil Company 1953-1968
33	86 Smith St.	21	107	10	Marley, Timothy & Marguerite	Single fam	1890	Low	
34	90 Smith St.	21	107	9	Orr, John S., II & Amy L.	Three fam	1890	Low	

35	96 Smith St.	21	107	8	Murphy, Diane & Pongetti, Rudolph	Single fam	1876	Low	
36	37 Smith St.	27	68	37	Castle Realty, LLC	Public Tank		High	Oil Company 1938-Present, 8 ASTs, Machine Shop, Foundry & Blacksmith, RST gasoline, 500 gal. oil spill 1992, 1891-1921
37	72 Goshen St.	22	107	17, 18	Sonalysis, Inc.	Office Build	1900	Med	Contractor's storage 1921
38	64 Goshen St.	22	107	20	O'Connell, Vilma & Benvenuil, Beatrice	Single fam	1890	Low	
39	58 Goshen St.	22	107	22	Schlavone, S. & Engelman, Eruce	Two fam	1900	Low	
40	54 Goshen St.	22	107	24	Anton, Albert P	Two fam	1900	Low	
41	50 Goshen St.	22	107	25	Gonzalez, Jose & Mirina	Two fam	1900	Low	
42	46 Goshen St.	22	107	27	Gonzalez, Evelyn Y.	Two fam	1910	Low	
43	42 Goshen St.	22	107	28	Rogovin, Isadore	Two fam	1912	Low	
44	59 Goshen St.	21	106	12	Desantis, John T. & Thomas P.	Two fam	1920	Low	
45	59B Goshen St.	21	106	13	Desantis, John T. & Thomas P.	vac Land		Low	
46	53 Goshen St.	21	106	10	Cristofaro, Pasquale & Margaeri	Two fam	1890	Med	Motor oil spill 1993
47	49 Goshen St.	21	106	9	Palaya Construction Limited Partnership	Two fam	1890	Low	
48	41 Goshen St.	21	105	8	Palaya Construction Limited Partnership	Single fam	1890	Low	
49	28 East St.	21	105	3	Ciavaglia, Rose	Single fam	1890	Low	
50	8 East St.	21	105	11	Gilbert, Emily, P.	Single fam	1890	Low	
51	10 East St.	21	105	10	Gilbert, Emily, P.	Single fam	1890	Low	
52	12-14 East St.	21	105	9	Voyles, Richard	Single fam	1890	Low	
53	14 East St.	21	105	8	Ballestrini, Helen M.	Two fam	1942	Low	
54	16 East St.	21	105	8	Ballestrini, Helen M.	Single fam	1942	Low	
55	16 East St. R.	21	105	8	Ballestrini, Helen M.	Two fam	1890	Low	
56	22 East St.	21	105	5	Blescus, Erika, M.	Two fam	1890	Low	
57	26 East St.	21	105	4	Smith, Victor H., Sr.	Single fam	1890	Low	
58	81-83 Walbach St.	21	105	3	Ciavaglia, Rose	Two fam	1890	Low	
59	79 Goshen St.	21	106	14	Italian Dramatic Club, The	Club	1922	Low	
60	Lot 13 Trumbull St.	21	68	13	City of New London	vac land		High	See Number 8
61	Walbach St.	22	107	26	Penn Central Transportation Co.	excess land	0	Low	
62	Goshen St.	22	107	21	Penn Central Transportation Co.	excess land	0	Low	
63	68 Goshen St.	22	107	19	Sonalysis Inc	Single fam	1890	Low	
64	162 Hamilton St.	22	107	3	Howard-Hamilton Corporation	Comm Ware	1900	High	Foundry, machine shop, paint shop, linoleum paste, auto repair and sales, auto painter, woodworking, [1891-present]

65	216 Howard St.	22	107	32	Von Winkle, Karl R., Trustee	Office Build	1955	High	Cleaner and dyer 1953-1958
66	80 Hamilton St.	26	109	13	City of New London Redev. Agency	Municipal	1940	Low	
67	150 Howard St.	26	109	19	Miner & Alexander Lumber Company	Warehouse	1920	High	FUST
68	224 Shaw St.	22	102	8	Mel, Lebro	Two fam	1900	Low	
69	230 Shaw St.	11	102	7	Renshaw, Murray	vac Land	0	Low	Former Montali's Bakery
70	232 Shaw St.	22	102	6	Renshaw, Murray	Single fam	1900	Low	
71	243 Howard St.	22	102	5	Oxford Realty	vac Land	0	Low	Former Restaurant
72	239 Howard St.	22	102	4	Suplicki, Stanley E., Jr.	Three fam	1900	Low	
73	229 Howard St.	22	102	3	Pottle, Bradford	Store/Shop	1946	Med	Chinese Laundry 1907-1921
74	237 Howard St.	22	102	2	Picinich, Thomas J.	Single fam	1900	Low	
75	Harris St.	22	102	1	Renshaw, Murray	Ware	1970	Med	Boat Builder (mostly storage)
76	172 Howard St.	22	107	36	Costanza, Gregory, G.	Single fam	1882	Low	
77	170 Howard St.	22	107	36	Tackling, Robert & Joan	Single fam	1900	Low	
78	194 Howard St.	22	107	34	Howard Shoreline Associates	Office Build	1985	High	Machine Shop & Foundry 1891-1968, Numerous monitoring wells
79	210 Howard St.	22	107	33	Parikh, Vinod & Jayendra, Chiman, Patel	Office Build	1900	Low	
80	65 Hamilton St.	22	107	2	Gabrick, Ingrid	Comm Ware	1950	High	Autobody and painting shop 1950-1972
81	152 Howard St.	22	107	1	Wildes, Robert P., et al	Comm Ware	1920	High	Furniture Warehouse 1967-1972, Auto Repair 1951
82	Hamilton St.	22	101	4	City of New London – HAM	Municipal	0	Low	
83	Shaw St.	22	101	38	Sandrew, Carol	Res Devel	0	Low	
84	12 Harris St.	22	101	30	Pietras, Virginia	Two fam	1900	Low	
85	16 Harris St.	22	101	29	Rolfe, Gladys, R.	Two fam	1900	Low	
86	221 Howard St.	22	101	27	Traystman, Harry, Trustee	Rest/Club	1950	Low	
87	215 Howard St.	22	101	26	Traystman, Harry c/o Sandrew, Carole	Single fam	1900	Med	Portions of property are filled areas of former Shaws Cove
88	211 Howard St.	22	101	25	Traystman, Harry c/o Sandrew, Carole	Single fam	1900	Low	
89	211R Howard St.	22	101	25	Traystman, Harry c/o Sandrew, Carole	Single fam	1910	Low	
90	209 Howard St.	22	101	24	Kimball, Donald, H.	Two fam	1900	Low	
91	203 Howard St.	22	101	23	Howard Shoreline Associates	Parking Lot	0	High	Existing monitoring wells
92	197 Howard St.	22	101	22	Howard Shoreline Associates	Parking Lot	0	High	Junk yard, scrap yard 1928-1972, existing monitoring wells
93	195 Howard St.	22	101	21	Delgrosso, Lillian c/o Farrell Antionett	vac Land	0	High	Used car dealer 1943-1977
94	189 Howard St.	22	101	20	Farrell, Antoinette	Single fam	1900	Med	Furniture repair 1921
95	Shaw St.	22	101	19	City of New London – HAM	Municipal	0	Med	Portions of property are filled areas of former Shaws Cove

96	185 Howard St.	22	101	18	Bernard, John A & Nancy L	Two fam	1900	Low	
97	175 Howard St.	22	101	16	Gaetano, Leonard, Jr.	Gas Station	1950	High	Gas Staton 1933-1998, 3 RUSTS, 3 FUSTS, Oil Spill 1991
98	175 Howard St. R	22	101	15	Darm, Nicholas, J., Sr.	Two fam	1900	High	Former Sheet metal shop
99	175R Howard St.	22	101	14	Dahm, Nicholas, J., Sr.	Comm Ware	1900	Med	Portions of property are filled areas of former Shaw Cove
100	163 Howard St.	22	101	13	City of New London	Two fam	1900	Low	
101	Howard St. R	22	101	13	City of New London	Comm Ware	1900	High	Barrell storage and repair 1943-1985, Bottling Works, 1915-1921, Used car dealer and radiator repair 1924-1938
102	161 Howard St.	22	101	12	Hodges, George & Roxie	Two fam	1900	Low	
103	157 Howard St.	22	101	11	City of New London – HOW	Municipal	0	Low	
104	39 Hamilton St.	22	101	10	City of New London	Three fam	1900	Low	
105	37 Hamilton St.	22	101	9	Curtin, Catherine, H.	Single fam	1900	Low	
106	33 Hamilton St.	22	101	8	City of New London	Developed	0	Med	Lumber and Construction Co. 1983-1988
107	Hamilton St.	22	101	7	City of New London – HAM	Municipal	0	Low	
108	23 Hamilton St.	22	101	6	City of New London	Comm Ware	1870	High	Bottling Works 1912-1972, portions of property are filled areas of former Shaws Cove
109	30 Walbach	22			Amtrak	Railroad		High	Railroad Freight Depot and Repair from 1896-present, Gasoline FUST
110	Walbach & Hamilton	22	107	7	Amtrak	Vacant		Med	Antenna site
111	5 Pequot Ave	22	89	1	Pfizer, Inc.	Two fam	1900	Low	
112	11 Pequot Ave	22	89	2	Pfizer, Inc.	Two fam	1900	Low	
113	15-17 Pequot Ave	22	89	3	Pfizer, Inc.	Two fam	1900	Low	
114	21 Pequot Ave	22	89	4	Russell, Oscar	Industrial	1921	High	Machine shop 1921-1971, Kerosene UST
115	Lot 11 Trumbull St	22	68	11	Amtrak	Vacant Land	0	High	Railroad Tracks, Historical storage from nearby scrap yard
								Abbreviations:	RUST = Registered Underground Storage Tank
									FUST = Former Underground Storage Tank
									UST = Underground Storage Tank

APPENDIX F

Relevant Correspondence

[LOGO] [LOGO]

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL RESOURCES CENTER
79 Elm Street, Store Level
Hartford, CT 06106
Natural Diversity Data Base

September 3, 1998

Mark Carabetta
Milone & MacBroom, Inc.
716 South Main Street
Cheshire, CT 06410

re: Fort Trumbull Area in
New London, Connecticut

Dear Mr. Carabetta:

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map you provided for the Fort Trumbull Area in New London, Connecticut. According to our information, there are State Threatened Atlantic sturgeon *(Acipenser oxyrhynchus)* in the vicinity of this project. Please contact Peter Aarrestad (DEP-Marine Fisheries) for further information on the sturgeon.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Natural Resources Center's Geological and Natural History Survey and cooperating units of DEP, private conservation groups

and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at 424-3592. Thank you for consulting the Natural Diversity Data Base. Also be advised that this is a preliminary review and not a final determination. A more detailed review may be conducted as part of any subsequent environmental permit applications submitted to DEP for the proposed site.

Sincerely,

/s/ Dawn M. McKay
Dawn M. McKay
Biologist/Environmental Analyst

CC: Peter Aarrestad

[LOGO]

STATE OF CONNECTICUT
CONNECTICUT HISTORICAL COMMISSION

October 8, 1998

Ms. Pamela Aey Adams
State Parks Division
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106

Subject: Fort Trumbull State Park
New London, CT

Dear Ms. Adams:

The State Historic Preservation Office has reviewed the Department of Environmental Protection's *Application to the Federal Lands to Parks Programs* concerning the above-named property. This office notes that Fort Trumbull is listed an the National Register of Historic Places. In addition, the Naval Facilities Engineering Command and this office have identified a significant portion of the former Naval Undersea Warfare Center, including Fort Trumbull, as being eligible for the National Register as a military-maritime historic district. Section 5.2.5 and Fig 6-1 of the Naval Facilities Engineering Command's *Cultural Resources Survey* describes all contributing structures and the boundaries for this historic area.

The State Historic Preservation Office is actively consulting with the Naval Facilities Engineering Command pursuant to its historic preservation responsibilities vis-a-vis the National Historic Preservation Act. This office expects that a programmatic memorandum of agreement will be forthcoming from these negotiations which will include pertinent preservation covenants and/or mitigative

measures with respect to the Department of the Navy's proposed disposal of this historic facility.

The State Historic Preservation Office supports the proposed acquisition and subsequent management of this important property as a state heritage park. Fort Trumbull represents a rare opportunity for educational and interpretative programming concerning Connecticut's extensive maritime-related military history from 19th-century coastal defense to Cold War research and development.

This office anticipates working with the State Parks Division with respect to proposed site development and interpretative activities in accordance with the Connecticut Environmental Policy Act and the forthcoming Programmatic Memorandum of Agreement with the Naval Facilities Engineering Command

In order to facilitate further coordination between our professional staff, we have requested that the Naval Facilities Engineering Command forward a final copy of its *Cultural Resource Survey* directly to your office.

For further information please contact Dr. David A. Poirier, Staff Archaeologist.

Sincerely,

/s/ Dawn Maddox
Dawn Maddox
Deputy State Historic
Preservation Officer

[LOGO]

STATE OF CONNECTICUT
CONNECTICUT HISTORICAL COMMISSION

October 14, 1998

Ms. Jeanine Armstrong Bonin
Milone & Macbroom Inc.
716 South Main Street
Cheshire, CT 06410

Subject: Fort Trumbull MDP Area
New London, CT
MMI #1876-01

Dear Ms. Bonin:

The State Historic Preservation Office has reviewed the archaeological assessment survey prepared by Dr. Stuart A. Reeve and Keegans Associates concerning the above-named project. In the opinion of the State Historic Preservation Office, the research methodologies for the archaeological assessment are consistent with our *Environmental Review Primer for Connecticut's Archaeological Resources.*

The State Historic Preservation Office has also reviewed the *administrative draft* Environmental Impact Evaluation prepared by Milone & MacBroom Inc. for the Fort Trumbull MDP Area. This office concurs with the archaeological evaluation documented within the assessment survey report and the draft EIE. We further agree with the archaeological sensitivity determinations as detailed in Figure 19 (prehistoric) and Figure 20 (historic) of the archaeological assessment survey; Figures 2.7.3 and 2.7.4 are the respective EIE counterparts.

The State Historic Preservation Office recommends that a reconnaissance survey be undertaken with respect to those areas of moderate to high archaeological sensitivity

(Figures 2.7.3 and 2.714) in order to identify, evaluate, and professionally consider archaeological resources as an integral component of the CEPA planning process. In particular, the reconnaissance survey should specifically investigate the archaeological visibility and integrity of the former Fort Trumbull Glass Company factory and the A. Bragan Ship Yard. All archaeological studies must be undertaken in accordance with this office's *Primer.*

In addition, the State Historic Preservation Office recommends that additional historic and architectural evaluation be professionally undertaken with respect to the seven military-related structures that are identified on the 1919 map of Fort Trumbull, but which are located outside of the current NUWC property. This evaluation should consider the historic context established for the NUWC military-research facilities by the Naval Facilities Engineering Command's *Cultural Resources Survey* and the eligibility criteria for the National and State Registers of Historic laces.

This office looks ferward to working with Milone & MacBroom Inc., the Department of Economic and Community Development, the City of New London, and all interested parties with respect to the expeditious furtherance of the Fort Trumbull MDP project as well as the professional management of Connecticut's cultural heritage.

These comments are provided pursuant to the Connecticut Environmental Policy Act and Connecticut General Statutes Section 22a-90(I)(J).

For further information please contact Dr. David A. Poirier, Staff Archaeologist.

Sincerely,

/s/ Dawn Maddox
Dawn Maddox
Deputy State Historic
Preservation Officer

cc: Mr. Peter Simmons/DECD
Dr. Nicholas Bellatoni/OSA
Mr. Jeffrey Smith/OPM

[LOGO]

STATE OF CONNECTICUT
CONNECTICUT HISTORICAL COMMISSION

October 13, 1998

Ms. Tina A. Deininger
Department of the Navy
Naval Facilities Engineering Command
10 Industrial Highway
Mail Stop #82
Lester, PA 19113-2090

Subject: Naval Undersea Warfare Center (Fort Trumball)
New London, CT

Dear Ms. Deininger:

The State Historic Preservation Office reaffirms its prior assessment that the proposed Naval Undersea Warfare Center (Fort Trumbull) historic district (*Cultural Resources Survey*, Figure 6-1) is eligible for the National Register of Historic Places. The NUWC historic district is uniquely significant with respect to Connecticut's military and maritime history.

The State Historic Preservation Office believes that the closure and subsequent disposition of this historic military facility will constitute an *adverse effect* upon the safe's cultural heritage. In particular, this office understands that the Connecticut Department of Environmental Protection and the New London Development Corporation, which are likely recipients of the property, have developed preliminary plans that include the proposed demolition of numerous structures which contribute to the historic significance of the Naval Undersea Warfare Center (Fort Trumbull) historic district.

The State Historic Preservation Office recommends that the Naval Facilities Engineering Command consult with the Advisory Council on Historic Preservation pursuant to the National Historic Preservation Act. In particular, this office encourages the Naval Facilities Engineering Command to develop a memorandum of agreement that would satisfactorily mitigate project-related impacts upon the historic, architectural, and archaeological components of the NUWC historic district.

The State Historic Preservation Office strongly recommends that the following mitigative measures be incorporated into the memorandum of agreement for the NUWC base closure project:

Documentation

- The Naval Facilities Engineering Command shall document Bowditch Hall (Building 34) to the professional written and photographic (interior and exterior) standards of the Historic American Buildings Survey. NFEC shall consult with the National Park Service to determine what level and land of documentation is required. NFEC shall

provide final copies of the documentation to the State Historic Preservation Office, the Department of Environmental Protection, State Parks Division, and the National Park Service.

- The Naval Facilities Engineering Command shall document the NUWC historic district and its individual components to the professional standards of the State Historic Preservation Office. Documentation shall consist of unmounted 35mm black and white photographs (exterior and interior), narrative text, an index to photographs, and a photographic site plan. NFEC shall provide final documentation to the State Historic Preservation Office and the Department of Environmental Protection State Parks Division.

- The Naval Facilities Engineering Command shall develop and implement a professional oral history program with current and former employees with respect to NUWC's Cold War-related research and development activities. NFEC shall provide a final report, including audio tapes and transcripts, to the State Historic Preservation Office and the Department of Environmental Protection State Parks Division.

- The Naval Facilities Engineering Command shall develop, in consultation with the Thomas I. Dodd Research Center at the University of Connecticut (Storrs), a comprehensive archival plan for historic photographs, construction plans, and other relevant written materials that pertain to the extensive military and research and development use of Fort Trumbull and the Naval Undersea Warfare Center.

Interpretation

- The Naval Facilities Engineering Command shall supplement the HABS and SHPO-level documentation with a popular report which incorporates the social, military, and research history of Fort Trumbull and the Naval Undersea Warfare Center. The popular report shall be consistent in overall content and design quality to *Scovill Brass: Buttons, Cameras, and Cartridge Cases* (Historical Perspectives Inc. 1997). NFEC shall provide 250 copies of the final report to the State Historic Preservation Office and the Department of Environmental Protection State Parks Division, respectively.

- The Naval Facilities Engineering Command shall research, develop, and construct, in consultation with the Department of Environmental Protection State Parks Division, high-quality, state-of-the-art interpretative exhibits concerning the social, military, and research history of Fort Trumbull and the Naval Undersea Warfare Center. NFEC shall transfer the final interpretative exhibits to the Department of Environmental Protection State Parks Division for use at Fort Trumbull State Park.

- The Naval Facilities Engineering Command shall develop an electronic version of the to-be-designed popular report and the interpretative exhibits which shall be established on the Internet in coordination with the Office of the State Archaeologist at the University of Connecticut (Storrs).

Preservation

- The Naval Facilities Engineering Command shall ensure that structures located within the NUWC

historic district are maintained pursuant to *NAVFAC MO-913 Historic Structures Preservation Manual* and the National Park Service's *Standards for Rehabilitation*. NFEC shall ensure that Bowditch Hall (Building 34) is closed and secured in accordance with *NAVFAC* caretaker maintenance standard level II.

- The Naval Facilities Engineering Command shall transfer, sell, or otherwise convey Fort Trumbull (Building 32), Bowditch Hall (Building 34), Buildings 13, 14, and 27, and the Rodman gun emplacements with preservation convenants that require consultation with the State Historic Preservation Office prior to any proposed alteration, including demolition, that would be inconsistent with the National Park Service's *Standards for Rehabilitation*.

- The Naval Facilities Engineering Command shall transfer, sell, or otherwise convey areas of the Naval Undersea Warfare Center which possess moderate to high archaeological sensitivity (*Cultural Resources Survey*, Figure 6-2) with preservation covenants that require consultation with the State Historic Preservation Office prior to any proposed ground disturbance.

The State Historic Preservation Office anticipates working with the Naval Facilities Engineering Command, the Advisory Council on Historic Preservation, the Department of Environmental Protection State Parks Division, and all interested parties to facilitate disposition of this historic military complex as well as the professional management of Connecticut's unique military-maritime cultural resources.

No physical alteration and/or demolition of any structure within the Naval Undersea Warfare Center should be undertaken until the Naval Facilities Engineering Command has resolved its historic preservation responsibilities pursuant to the National Historic Preservation Act

For further information please contact Dr. David A. Poirier, Staff Archaeologist.

Sincerely

/s/ Dawn Maddox
Dawn Maddox
Deputy State Historic
Preservation Officer

cc: Ms. Pamela Adams/DEP-Parks
Mr. Peter Simmons/DECD
Mr. Don Klima/ACHP
Dr. Nicholas Bellatoni/OSA

[LOGO]

STATE OF CONNECTICUT
CONNECTICUT HISTORICAL COMMISSION

October 8, 1998

Ms. Tina A. Deininger
Department of the Navy
Naval Facilities Engineering Command
10 Industrial Highway Mail Stop #82
Lester, PA 19113-2090

Subject: Naval Undersea Warfare Center (Fort Trumbull)
New London, CT

Dear Ms. Deininger:

The State Historic Preservation Office has reviewed the *draft Cultural Resources Survey: Naval Undersea Warfare*

Center, New London, Connecticut, prepared by TAMS Consultants Inc. and Historical Perspectives Inc. concerning the above-named property. This office commends the Naval Facilities Engineering Command, TAMS Consultants Inc., and Historical Perspectives Inc. on the comprehensiveness and high quality of the historic research and architectural analysis undertaken for the *Cultural Resources Survey.*

In the opinion of the State Historic Preservation Office, the proposed NUWC historic district (Section 5.2.4 and Figure 6-1) is eligible for the National Register of Historic Places. The historic district is uniquely significant with respect to Connecticut's military and maritime history. The NUWC historic district reflects the important transition from 19th-century coastal defense to Cold War research and development. Surviving structures from early Coast Guard and Merchant Marine training facilities further enhance the statewide significance of this historic property.

The State Historic Preservation Office believes that the archaeological assessment undertaken by Historical Perspectives Inc. is consistent with our *Environmental Review Primer for Connecticut's Archaeological Resources.* This office concurs with the respective areas of archaeological sensitivity identified in Figure 6-2. Evaluation of National Register eligibility, or lack thereof, for archaeological resources warrants additional archaeological investigations.

This office requests that 2 copies of the final *Cultural Resources Survey* be provided to our professional staff for statewide cultural resource management purposes. We also recommend that the *Cultural Resources Survey* be

provided to the Connecticut Department of Environmental Protection's State Parks Division in order to facilitate future state park development and cultural resource management.

The State Historic Preservation Office requests that the Naval Facilities Engineering Command coordinate with the Naval Undersea Warfare Center concerning the possible existence of data on historic shipwrecks located in the Thames River harbor or Long Island Sound that may have been compiled incidental to NUWCs extensive sonar research. Such data may have been compiled as navigational hazard information.

This office appreciates the opportunity to have reviewed and commented upon the *Cultural Resources* Survey.

For further information please contact Dr. David A. Poirier, Staff Archaeologist.

Sincerely

/s/ Dawn Maddox
Dawn Maddox
Deputy State Historic
Preservation Officer

cc: Ms. Pamela Adams/DEP-Parks
Mr. Peter Simmons/DECD